Transportation Library
SEP 30 1949

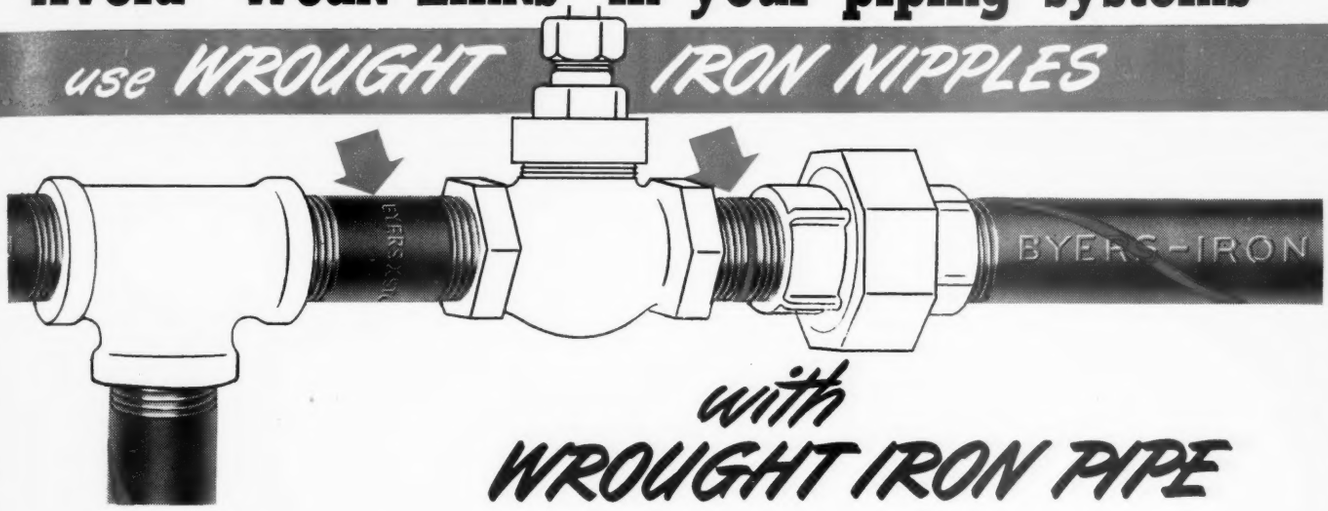
FOUNDED IN 1856

RAILWAY AGE

SEPTEMBER 24, 1949

Avoid "Weak Links" in your piping systems—

use WROUGHT IRON NIPPLES



with WROUGHT IRON PIPE

When you specify wrought iron pipe to lick some corrosion problem, assure 100% protection by specifying that the pipe nipples also must be wrought iron. Neglect of this simple precaution will leave weak spots in your lines, and set the stage for maintenance headaches.

METHOD OF SPECIFICATION

Merely stating that the piping "system" is to be black or galvanized wrought iron is not enough; the use of wrought iron nipples should be specifically designated. This may be done by requiring that the wrought iron nipples shall be made of pipe conforming to the requirements of A.S.T.M. Specification A72-45, Federal Specification WW-P-441a, Navy Specification 44P11k, or any accredited proprietary specification.

WIDE RANGE OF SIZES

Byers Wrought Iron nipples, both standard weight and extra strong, are available in a wide range of sizes and lengths, either black or galvanized. They are manufactured from new, tested, full-weight wrought iron pipe in accordance with the standards established in the specifications of leading technical organizations. All nipples are furnished with right-hand threads unless otherwise specified; nipples with right and left-hand threads are also available. Nipples are furnished "close" or to length as specified.

IDENTIFICATION

The word "Byers" and the weight —either "Std." or "X Stg." are machine stamped around the circumference of Byers Wrought Iron nipples. On close nipples, where it is impractical to stamp on the threads, a red band is used. These markings provide quick, positive identification of Byers Wrought Iron nipples, and help to avoid any danger of accidental substitution of non-durable nipples in the line.

Wrought iron nipples are also available from a number of manufacturers. The identification used on such nipples may be learned by consulting the supplier.

Wrought iron welding fittings are available in a wide range of types and sizes from leading fitting manufacturers. Just contact your supplier.

INHERENT CORROSION RESISTANCE

The superior resistance of wrought iron nipples comes from the unique composition and structure of the material. Tiny threads of glass-like silicate slag, distributed through the body of high-purity iron, halt and "detour" corrosive attack, and so discourage pitting. The fibers also anchor the initial protective scale, which shields the underlying metal.

The best guide in applying wrought iron is a knowledge of its character and properties. The complete story is presented in the booklet, "The ABC's of Wrought Iron". Ask for a copy.

A. M. Byers Co., Pittsburgh, Pa. Established 1864. Boston, New York, Philadelphia, Washington, Atlanta, Chicago, St. Louis, Houston, Salt Lake City, Seattle, San Francisco. Export Division: New York, N.Y.

BYERS

GENUINE WROUGHT IRON

TUBULAR AND HOT ROLLED PRODUCTS

ELECTRIC FURNACE QUALITY ALLOY AND STAINLESS STEEL PRODUCTS

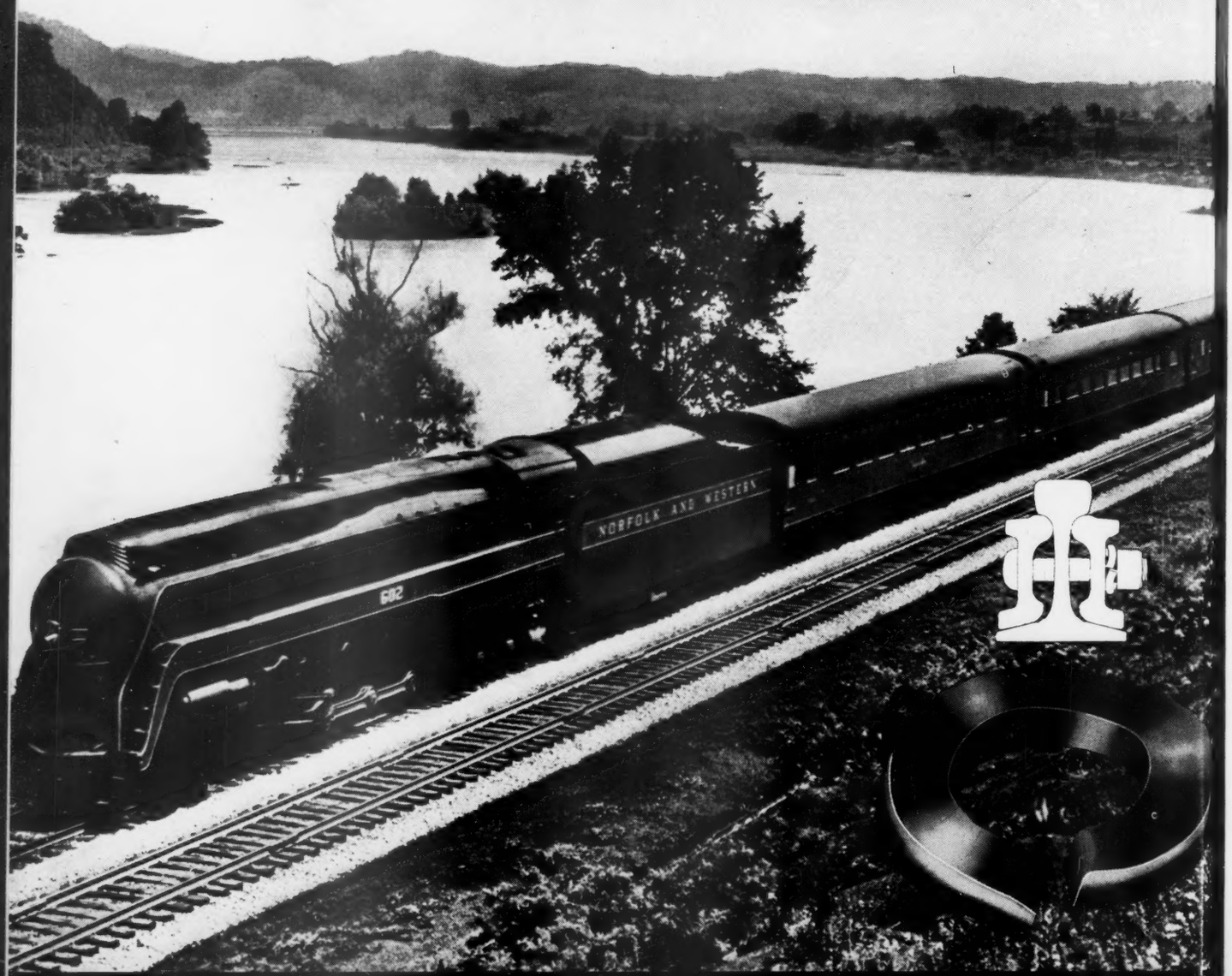
CORROSION COSTS YOU MORE THAN WROUGHT IRON

On thousands of miles of track, in all parts of the country, under every conceivable condition of weather and wear Improved Hipowers play an invaluable though inconspicuous role.

They serve continuously—absorbing shocks and stresses, equalizing bolt tensions, insuring resilient joints, and protecting rail ends.

IMPROVED HIPOWERS

IMPROVE TRACK



HE NATIONAL LOCK WASHER COMPANY, NEWARK 5, N. J., U. S.

A COMPLETE LINE OF RAILWAY SPRING WASHERS

Vol. 127, No. 13 September 24, 1949

RAILWAY AGE

With which are incorporated the Railway Review, the Railway Gazette, and the Railway-Age Gazette. Name Registered in U. S. Patent Office and Trade Mark Office in Canada.

IN THIS ISSUE

EDITORIALS:

Labor Monopolies Must Be Abolished 35

No Time to Drop Training Programs 36

Diesel Maintenance Requires Trained Men 37

NEW BOOK 48

GENERAL NEWS 61

FREIGHT OPERATING STATISTICS 76

GENERAL ARTICLES:

Roadmasters in Annual Gathering at Chicago 38

Shop Facilities for Diesel Motive Power, by F. E. Russell 44

Economics Discussed by A.A.R. Signal Section 49

Board Finds No Need for Extra Fireman on Diesels.. 52

R. E. Woodruff Becomes Erie Chairman October 1; P. W. Johnston Will Be New President 56

Railroads Receive Harriman Safety Awards 58

Published each Saturday by the Simmons-Boardman Publishing Corporation, Orange, Conn., with Editorial and Executive Offices at 30 Church Street, New York 7, N. Y., and 79 West Monroe Street, Chicago 3, Ill.

Washington 4, D. C.: 1081 National Press Building—Cleveland 13: Terminal Tower—Seattle 1: 1914 Minors Avenue—Los Angeles 13: 816 West Fifth Avenue—Dallas 4: 2909 Maple Avenue.

Samuel O. Dunn, Chairman. James G. Lyne, President. S. Wayne Hickey, C. Miles Burpee, H. H. Melville, C. W. Merriken, John R. Thompson, F. C. Koch, R. E. Thayer, H. E. McCandless, Vice-Presidents. J. S. Crane, Vice-President and Secretary. J. T. DeMott, Treasurer. Ralph E. Westerman, Arthur J. McGinnis, Assistant Treasurers.

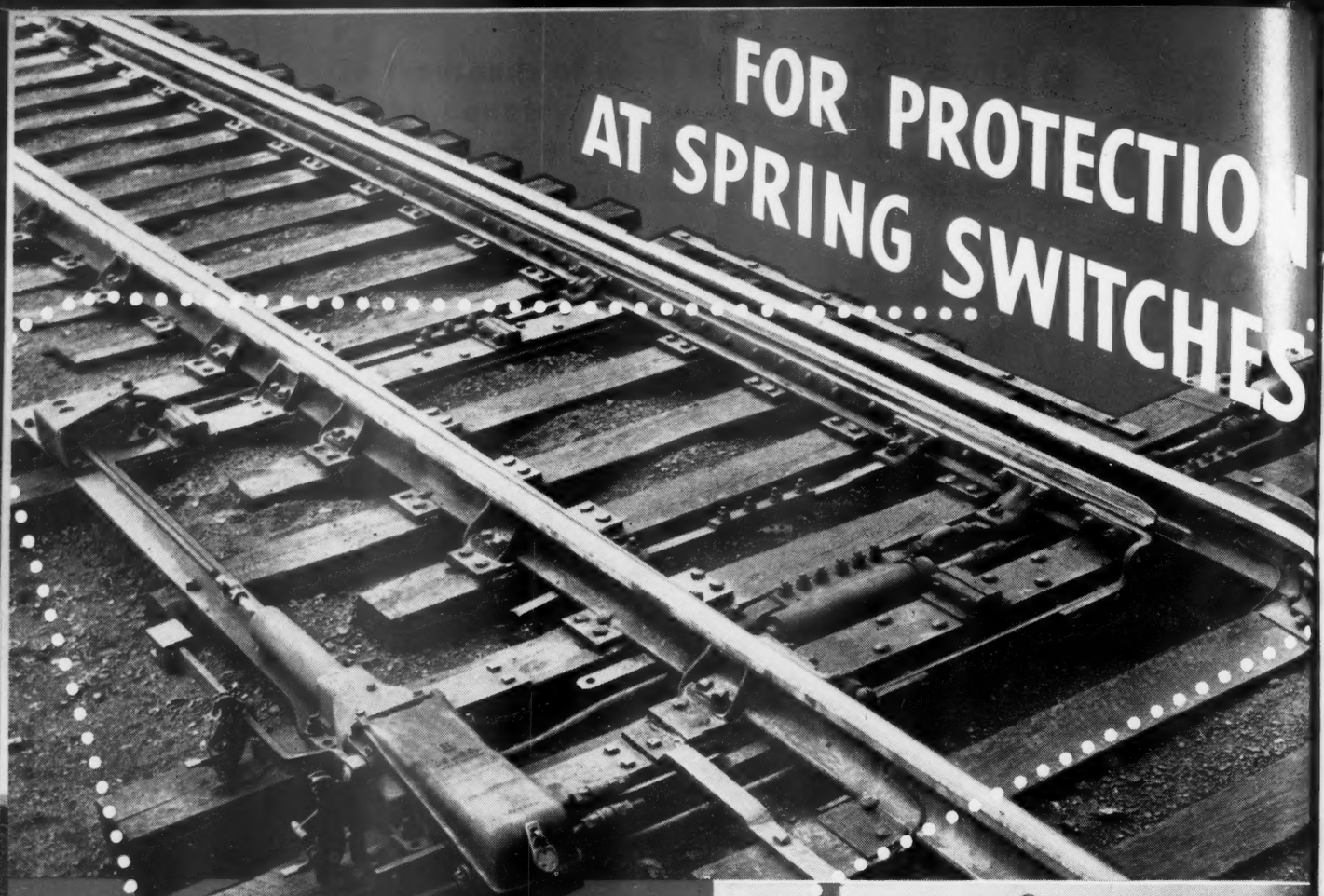
S. Wayne Hickey, Business Manager.

Subscriptions: including 52 regular weekly issues, and special daily editions published from time to time in New York or in places other than New York, payable in advance and postage free—United States, U. S. possessions and Canada: 1 year, $6.00; 2 years, $10.00; other countries not including daily editions in Western Hemisphere: 1 year, $10.00; 2 years, $16.00; other countries: 1 year, $15.00; 2 years, $25.00. Single copies, 50 cents each, except special issues.

H. E. McCandless, Circulation Manager, 30 Church Street, New York 7.

Railway Age is a member of Associated Business Papers (A. B. P.) and Audit Bureau of Circulation (A. B. C.) and is indexed by the Industrial Arts Index and by the Engineering Index Service. PRINTED IN U. S. A.

FOR PROTECTION AT SPRING SWITCHES...



install "UNION" *Mechanical* Facing Point *LOCKS*

For Trailing Moves against the closed point, leading wheels flex the switch points, causing automatic unlock of the mechanism to permit trailing movement. After the train has cleared the switch, points are returned to their normal position and a powerful spring restores the locking plunger in the notch of a standard lock rod.

"Union" Mechanical Facing Point Locks give spring switches a degree of safety comparable to that of interlocked switches . . . make it unnecessary to impose speed restrictions on trains moving over them in the facing-point direction . . . yet, retain all the advantages of the spring switch for trailing moves against the closed point.

For facing-point moves, the mechanism locks the switch points against movement from the impact and vibration caused by a passing train.

A built-in *circuit controller* for signal control checks that the switch is correctly positioned and *locked,* and through the *point detector,* continuously checks that the switch points are in the correct position and have not been damaged. Ask our nearest district office for detailed information.

UNION SWITCH & SIGNAL COMPANY

SWISSVALE, PENNSYLVANIA

NEW YORK
CHICAGO
ST. LOUIS
SAN FRANCISCO

WEEK AT A GLANCE

TIME TO END LABOR MONOPOLIES: Last week's leading editorial pointed out that the strike of Missouri Pacific operating employees is part of a deliberate, long-term "shakedown" policy of extorting from the railroads, one by one, money for work not done or in amounts disproportionate to work actually performed. This week, our leading editorial (page 35) declares that the M.P. strike is an example of the abuse of the power of labor union monopolies and of the danger to the public created by the existence of those monopolies. "Economic monopoly of any kind," the editorial says, "is an intolerable menace to the welfare of the nation"—a menace which must be destroyed by "passage and enforcement of legislation prohibiting labor monopolies as existing laws prohibit business monopolies."

ROADMASTERS DISCUSS 40-HOUR WEEK: The 40-hour week in maintenance-of-way work is just another "cost obstacle"—such as maintenance officers have met and overcome before, and which can in turn be overcome by careful study and hard work. That was the most important of many subjects of timely interest to track maintenance officers studied at the September 12-14 meeting of the Roadmasters' and Maintenance of Way Association, which is fully reported in the article beginning on page 38. The concurrent convention of the American Railway Bridge & Building Association will be summarized in next week's *Railway Age.*

NO EXTRA FIREMEN ON DIESELS: The Presidential emergency board which held summer-long hearings at New York on the demand of the Brotherhood of Locomotive Firemen and Enginemen for employment of additional firemen on Diesel-electric road locomotives submitted its report on schedule on September 19—and recommended flat denial of the brothers' proposal. It also rejected other rules changes advocated by the union, and counter-proposals made by the railroads. A detailed summary of the board's report begins on page 52.

SHOP FACILITIES FOR DIESEL POWER: The illustrated article beginning on page 44—an abstract of a paper by F. E. Russell, superintendent of motive power for the Southern Pacific—outlines the type of facilities needed for effective maintenance and repair of Diesel locomotives, and describes the facilities which his company has in, or is putting into, service for that purpose. The editorial on page 37 points out also that efficient Diesel maintenance requires not only proper facilities but also adequately trained men.

MITCHELL SPEAKS AT HARRIMAN DINNER: Starting on page 58 is an illustrated account of the annual Harriman Award dinner of the American Museum of Safety, at which medals and certificates were awarded to those railroads with the best 1948 safety records. The dinner was featured by a hard-hitting address by Interstate Commerce Commissioner Richard F. Mitchell, which is worthy of careful reading. Incidentally, James G. Lyne, editor of *Railway Age,* is the new chairman of the award committee, succeeding R. V. Fletcher.

PLENTY OF RESERVE FUEL: This country has plenty of potential reserves of fuel for internal combustion engines, Charles F. Kettering, retired vice-president of General Motors Corporation, told the Coordinated Mechanical Associations at their meeting in Chicago this week. A full report of Mr. Kettering's comments on the fuel situation, as well as of an address by Edward H. Davidson, director of the I.C.C.'s Bureau of Locomotive Inspection, are included in the News.

NO "BLACK MARKET": A proposed report to the I.C.C. by Examiner F. E. Mullen, based on the inquiry held last winter, thoroughly refutes the loose and unfounded charges of a "black market" in sale of railroad and Pullman coach and sleeping car space. Mr. Mullen's findings are briefly summarized in the News.

JOHNSTON SUCCEEDS WOODRUFF: As reported in last week's *Railway Age,* Robert E. Woodruff, president of the Erie since 1941, will become chairman of that company's board of directors on October 1, being succeeded in the presidency by Paul W. Johnston, now executive vice-president. The careers and business philosophies of both men—both, incidentally, life-long Erie employees—are reviewed on pages 56-57.

1948 SAFETY STATISTICS: Our News department this week includes a summary of steam railway accidents in 1948 just issued by the I.C.C.'s Bureau of Transport Economics and Statistics. On nearly all counts, the record was better than in 1947 or in other immediately preceding years.

TIE PRODUCERS MEET AT MEMPHIS: With the fall convention season in full swing, the week's News section contains a report of the recent three-day meeting at Memphis, Tenn., of the Railway Tie Association.

ECONOMICS OF SIGNALING: Methods of facilitating train movements and of reducing operating expenses by the use of modern signaling facilities were the principal subjects discussed at the annual meeting of the Signal Section of the Association of American Railroads held at Chicago last week. An account of the meetings, including abstracts of the principal addresses and of such committee reports as are of general interest, begins on page 49.

The new General Motors F7 provides ample water- and steam-generator capacities for either single- or multiple-unit operation in heavy-duty passenger service:

	FP7A	F7B
WATER CAPACITY *(without dynamic brakes)*	**1,750 GALLONS**	**1,800 GALLONS**
WATER CAPACITY *(with dynamic brakes)*	**1,150 GALLONS**	**1,200 GALLONS**
STEAM-GENERATOR CAPACITY	**2,500 POUNDS**	**4,000 POUNDS**

ELECTRO-MOTIVE

DIVISION OF GENERAL MOTORS LA GRANGE, ILL.

GENERAL MOTORS LOCOMOTIVES

Home of the Diesel Locomotive

RAILWAY AGE

PUBLISHER . . .
Samuel O. Dunn

EDITOR . . .
James G. Lyne

MANAGING EDITOR . . .
C. B. Tavenner

WESTERN EDITOR . . .
Neal D. Howard

NEWS EDITOR . . .
Gardner C. Hudson

WASHINGTON OFFICE . . .
Walter J. Taft
A. J. Schuyler

ELECTRICAL DEPARTMENT . . .
Alfred G. Oehler

TRANSPORTATION DEPARTMENT . . .
William H. Schmidt, Jr.
Robert G. Lewis

MECHANICAL DEPARTMENT . . .
C. B. Peck
E. L. Woodward
H. C. Wilcox
C. L. Combes
G. J. Weihofen

ENGINEERING DEPARTMENT . . .
M. H Dick
Walter L. Turner, Jr.
Henry E. Michael
Norris V. Engman

PURCHASES & STORES DEPARTMENT . . .
John W. Milliken

EQUIPMENT & FINANCIAL NEWS . . .
Fred C. Miles

SIGNALING AND COMMUNICATIONS DEPARTMENT . . .
John H. Dunn
Maurice Peacock

WESTERN NEWS DEPARTMENT . . .
George R. Johnson

ASSOCIATE EDITOR . . .
Charles Layng

LIBRARIAN . . .
Edith C. Stone

EDITORIAL ASSISTANT . . .
Elaine C. Farrar

Labor Monopolies Must Be Abolished

The strike on the Missouri Pacific has afforded another conclusive demonstration of a vitally important fact which already should have been known to every intelligent American—viz., that *economic monopoly of any kind* is an intolerable menace to the welfare of the nation.

It was proposed when Congress was considering the Taft-Hartley bill that there should be included a provision prohibiting nationwide collective bargaining. It was assumed by those who advocated such a provision that the prevention of collective bargaining on a national scale would prevent either nationwide industries, nationwide unions, or both, from exercising the power of monopoly.

Abuse of Power

Railway Age pointed out then the fallacy of this view. We emphasized that, if a union had a nationwide monopoly of labor of a particular kind, it could do exactly what the railway operating brotherhoods have done on the Missouri Pacific—viz., attack one company in an industry with overwhelming power and, having beaten it down, attack other companies seriatim until, without either nationwide bargaining or a nationwide strike, the union had imposed its will on the entire industry.

Never in history were the *existence*, the *use*, *abuse*, and the *danger* of the power of monopoly made plainer than by the strike on the Missouri Pacific. The operating brotherhoods, having accumulated numerous claims that they had been unable to settle by bargaining with the railroad, refused settlement of the claims either by the Adjustment Board created by the Railway Labor Act, which they helped get passed, by mediation, by arbitration—or by any other method, in fact, excepting a strike or complete surrender of the railroad to their demands. Refusal of the railroad to thus completely surrender was followed by the strike on the date set for it.

In order to arrive at an understanding of what occurred it is essential to know that the strike is *not merely one of employees of the Missouri Pacific*, but a strike of employees of the Missouri Pacific *belonging to and backed by unions having nationwide monopolies* of the kinds of labor that struck, and led and directed by the officers of unions having these nationwide monopolies. Hence the management of the railroad could not replace the strikers by hiring from other railroads workers having similar experience and qualifications. So it simply suspended operation, thus throwing all its nonstriking employees out of work.

This is but one of numerous extreme examples the nation has had within recent years of the abuse of the power of labor union monopolies and of the danger of their existence to the public. Among these examples have been the repeated closings of the coal mines by the edict of John L. Lewis, head of

the United Mine Workers, and his recent reductions of the number of days a week the mines may be operated.

As shown in an editorial in *Railway Age* of September 17 (pages 65-67) what the operating unions have done on the Missouri Pacific is but part of a systematic program they have pursued over a decade by "divide and conquer" methods to "shake down" the railroads one at a time and extort from them huge amounts of money for work not done or utterly disproportionate to the work actually done. Apparently there is only one means available for protecting the railroads, other industries and the public from these abuses of the power of labor monopolies, and that is to *destroy the monopolies.* This could be done by the passage and enforcement of legislation applying both the civil and criminal penalties of the federal antitrust law to labor unions in the same way and to the same extent as to business. It is not only a violation of the antitrust law for any segment of business to possess and use the power of monopoly for the purpose of restraining trade and commerce, but even to *attempt to secure that power.*

Present Laws All One-Sided

The antitrust act, like the common law, formerly applied equally to *all* combinations, conspiracies, or monopolies in restraint of trade and commerce. It was made inapplicable to labor unions by different pieces of legislation for that special purpose which began to be passed about seventeen years ago. There never was and could not be any plainer or more easily demonstrable combination or conspiracy in restraint of trade and commerce by a national monopoly than that by which the United Mine Workers under John L. Lewis' dictation repeatedly has closed down the coal mines for longer or shorter periods, or than those by which railway labor unions have stopped the operation of the Missouri Pacific and other railroads or have threatened the nation with the cessation of operation of all the railroads.

While the federal government has by some laws legalized and recognized the existence of these labor monopolies and thus given them their power, it has attempted to prevent abuse of that power by other legislation providing for the settlement of disputes by collective bargaining, arbitration, the creation of fact-finding boards and so on. *All this legislation has been one-sided because it has not denied to labor unions the power of monopoly which it has properly denied to the railroads and other industries with which the unions deal.* When an industry or part of an industry engages in collective bargaining with a labor monopoly it does so with the knowledge that, if the bargaining does not go to suit it, the union can cause a stoppage of operation by the use of its monopoly power, while employers have no parallel monopoly power to lock out members of the union. Because of the legalized monopoly power of national labor unions, collective bargaining has become largely a process of trading during which the union holds a loaded gun at the head of the employers.

Great power is always abused by whoever possesses it. The possession of monopolies of labor has given many labor unions excessive power. The public, as a measure of self-preservation, must destroy that power. Experience has conclusively shown that this can be done only by the passage and enforcement of legislation prohibiting labor monopolies as existing laws prohibit business monopolies.

NO TIME TO DROP TRAINING PROGRAMS

The railroads' experience has proved that, where it is desired to influence the thinking of a considerable number of employees in a given direction, a systematic program of training or instruction is required—one inspired and supported by management. Examples of such training programs are the measures taken by every railroad to impress employees with the necessity of living and working according to "Safety First" principles. Yet, despite the acknowledged effectiveness of systematic training programs, there is evidence that their full possibilities have not by any means been realized.

Those railway officers who have direct supervisory authority and responsibility are probably in the best position to evaluate the effectiveness of, and need for, systematic programs of personnel development. And many of these officers are apparently not entirely satisfied with the use that the railroads currently are making of such programs. Grounds for this statement appear in comments made in two of the technical committee reports presented at the recent convention of the Roadmasters' and Maintenance of Way Association, the proceedings of which are summarized in an article in this issue.

In the report dealing with the prevention of abuse of tools and equipment, the committee, while recognizing that plenty of printed instructions to this end have been issued, went on record with the opinion that present individual instruction is "insufficient and inadequate." A conclusion expressed by this committee is that a definite training program of individual instruction during or outside of the regular working season will do much to reduce abuse.

Another committee, reporting on the relation of supervision to the maximum production of track

gangs, complained that most roads do not have any system of special training for track foremen and men, and it went on to say that most men in these categories today must learn their trade from what they are shown and taught by the foremen, the supervisor and the more experienced men in the gang. "The better-trained foremen and men make fewer mistakes," said this committee, "with less waste of material and labor, and are able to progress their work in a more expeditious manner."

Job training programs for railroad employees received an important impetus during the war when the roads suddenly found themselves with many inexperienced workmen on their hands. Their virtues are not restricted to emergency conditions, however, and officers charged with the duty of obtaining the maximum service from tools and machines and the maximum amount of work performed per man-hour will not want to see a slackening in the wartime enthusiasm for such courses of instruction.

DIESEL MAINTENANCE REQUIRES TRAINED MEN

Men in railroad mechanical and operating departments who are closely associated with the maintenance and operation of Diesel-electric locomotives are increasingly demanding practical and detailed mechanical and electrical information that will enable them so to perform their duties as to assure a high standard of failure-free maintenance on this modern type of motive power. The Diesel-electric has been installed in large numbers over a relatively short period of years and the railroads have been faced with a real problem not only to secure enough of the right kind of men for servicing and repair shops but also to see that the men who are expected to keep this motive power in first-class condition are properly and adequately trained.

In the mechanical department there are two classes of men who must be given a working knowledge of the technique of servicing and maintaining any new type of equipment, i.e., the supervisors and the working force. The need of the supervisor is for sufficient general knowledge of the equipment and its functioning to be able to make sure that the working force knows how a job should be done and to know that it has been done right. The need of the working personnel is for specialized detail information.

So far, a reasonably good job has been done both by railroad managements and outside agencies in establishing the means whereby the supervisor has been able to get the general training that gives him a working knowledge of Diesel power. The locomotive builders have set up elaborate school facilities which take excellent care of the training needs of the supervisor. Local railroad clubs and the more recently formed clubs of Diesel personnel provide additional opportunity for the supervisor not only to add to his training but to establish a forum for the discussion of his problems. The really big job, though, is that of training the rank and file of mechanics, electricians and helpers, and it is about the accomplishment of this task that serious practical thought is now particularly required.

Up to this point many roads have looked to the supervisor to be a teacher as well as an administrator, and policy has not always been based on as serious consideration of the establishment of organized training schools and programs as that subject warrants. An adequate Diesel inspection and maintenance force cannot be built up without an adequate training program and facilities. With the added duties incident to the shorter work week the burden of supervisors' responsibilities probably will be so great that Diesel maintenance men will have to look elsewhere than to their supervisors for the information they need to do their work thoroughly and economically. Before it is too late every railroad with any substantial number of Diesel-electric units will profit by weighing the cost of a Diesel training school against the high cost of mediocre maintenance. Experience with all mechanical equipment indicates that its maintenance expense increases with its age, and the Diesel locomotive will be no exception. It is a simple matter to measure in dollars and cents the consequences of an abnormally high unit-mile Diesel maintenance cost. Inadequately trained men can so increase that unit-mile cost that thousands of dollars are needlessly thrown away.

If rank-and-file Diesel personnel is going to be trained the railroad is going to have to do it. These programs must be so set up that all who can benefit will take part in them, even if the training time has to be paid for. When the magnitude of future Diesel maintenance expense is considered the cost of a training program is small indeed.

To drum up business some airlines are comparing [their] coach fare with the first-class Pullman rates on trains. For instance, they quote a plane coach fare of $21 between Detroit and New York and $32.94 for the first-class Pullman train cost; Milwaukee $9 against $18.69, and Seattle $77 against $106.72. Always, incidentally, their figure is a round number, the rail fare is given right down to the last penny. That's like comparing peanuts with peaches. Why not compare the plane coach fare with the much lower railroad coach fare? And why not mention you ride with the cargo in the plane, something you don't do on a train? And that the rates apply on only certain trips on certain weekdays and not every day, as on the trains. Mr. Airline Executive, let's play the game squarely. Your ad has some of the earmarks of the old-time patent medicine ads that the papers years ago stopped printing; they just didn't smack of "square shooting."

—The Railroad Cooperative League of Michigan

Roadmasters in Annual Gathering at Chicago

The 40-hour week was outstanding among subjects of timely interest to track maintenance officers studied at well-attended meeting

Maintenance-of-way supervisory officers looked the 40-hour week, and many others matters, squarely in the face during a three-day meeting at Chicago, September 12-14, and decided that there was no difficulty confronting them that could not be solved by careful study and hard work. In fact, the short work week was not even pictured as being a problem but as just another "cost obstacle" to be overcome—an obstacle such as these officers are familiar with from long years in railroad work. This meeting was the annual convention of the Roadmasters' and Maintenance of Way Association, which was held at the Stevens hotel.

J. H. Aydelott, vice-president, Operations and Maintenance department, Association of American Railroads, made the principal address at the initial joint session of the Roadmasters' and Bridge & Building meetings

C. J. Geyer, vice-president, construction and maintenance, of the Chesapeake & Ohio, speaking at a joint session, made suggestions for putting maintenance work on a more effective and economical basis

Continuing an arrangement that is now generally accepted as standard practice, this meeting was held concurrently with the annual convention of the American Railway Bridge & Building Association. Missing this year was the usual exhibit of manufacturers' products that normally has been staged during these combined meetings by the Track Supply Association and the Bridge & Building Supply Men's Association. However, these two groups were hosts to the members of the two railroad groups and their families at a banquet on Tuesday evening which was attended by 1,000 persons. Also, the two supply groups collaborated in displaying in the corridor of the convention floor at the hotel the pictorial exhibit of progress in railroad engineering and maintenance which was presented originally at the Golden Anniversary convention of the American Railway Engineering Association last March. This display was loaned for the September meetings by the National Railway Appliance Association.

Attendance Surprisingly Large

Surprising to many in view of the absence of a products exhibit was the substantial nature of the attendance at the combined meetings. A total of 808 members and guests registered. While this figure is somewhat less than the record registration of 900 members and guests at the 1948 meetings, it is considerably in excess of the totals for 1947 and 1946, which were 765 and 693, respectively.

The highlights of the roadmaster's sessions, and of various joint activities of the two groups, are reported in this article. Next week's issue will contain a similar account of the separate activities of the Bridge & Building Association.

The two conventions were convened at a joint opening session on Monday morning. Presiding jointly over this session were R. L. Fox, division engineer of the Southern, and president of the Roadmasters' group, and E. H. Barnhart, division engineer of the Baltimore & Ohio, and president of the Bridge & Building Association. All separate sessions of the Roadmasters' meetings were directed by Mr. Fox, assisted by A. G. Reese, district engineer maintenance of way of the Chicago, Burlington & Quincy, and second vice-president of the association.

At the opening session the principal address was made by J. H. Aydelott, vice-president, Operations and Maintenance department of the Association of American Railroads. Following that session the two groups separated to begin their individual meetings. In his opening address to the Roadmasters' group, Mr. Fox pointed out that, with a membership of 1,027, this association is no longer a small organization and that no one challenges its place in the railroad field. Yet, he said, if the members wish to live up to what is expected of them by their managements they must

work with "untiring efforts" toward the betterment of maintenance and the improvement of service. Mr. Fox expressed the opinion that the association is now ready to take on more responsibility, and to carry out this thought he recommended that 10 subjects be selected for study by committees, instead of the usual six, and that the additional four reports be published in railway publications in advance of the convention each year.

The separate sessions of the roadmasters' meeting were devoted for the most part to the presentation and consideration of six committee reports on the following subjects: Stimulating Interest of Young Men in Maintenance-of-Way Work as a Career; Economies to Be Gained Through the Proper Distribution of Ballast; Relation of Supervision to Maximum Production of Track Gangs; Preventing the Abuse of Tools and Work Equipment; Developing Good Housekeeping Habits Among Track Employees; and Recent Developments in Transportation of Maintenance-of-Way Track Forces and Materials.

In addition to the committee reports the roadmasters' program included an address by G. L. Morrison, assistant engineer maintenance of way and structures, of the Southern Pacific, who spoke on Railroading on the Pacific Coast. A number of addresses were presented during the joint sessions. On Tuesday morning F. S. Schwinn, president of the A.R.E.A., and assistant chief engineer of the Missouri Pacific Lines in Texas and Louisiana, spoke on Maintaining the Railroads in 40 Hours. On Tuesday afternoon C. J. Geyer, vice-president, construction and maintenance of the Chesapeake & Ohio, addressed the combined groups on the subject, What Now? You Can Help, and C. M. Kimball, assistant to vice-president, safety, of the Southern spoke on Personalizing the Safety Concept. Other features of this same session were three sound motion pictures, one of which, in color, entitled Use and Abuse of Track Motor Cars, was presented through the courtesy of the Illinois Central. The second, depicting methods of handling ties mechanically, was exhibited through the courtesy of Stemm Bros., Inc., Leavenworth, Wash. The third picture dealt with the erection of the several notable bridges on the Redding-Delta line change of the Southern Pacific a few years ago.

On Wednesday afternoon, following the close of the business sessions, nearly 200 of those in attendance participated in a conducted tour of the manufacturing plant of the Pettibone-Mulliken Corporation at Chicago, where they saw the various steps in the manufacture of special trackwork and an exhibit of material-handling machines.

In the election of officers, held at the closing session on Wednesday, Mr. Reese was advanced to president; Cornell Halverson, division roadmaster of the Great Northern at Willmar, Minn., was advanced from director to first vice-president; A. H. Whisler, assistant engineer of the Pennsylvania at Philadelphia, Pa., was advanced from director to second-vice-president; and E. E. Crowley, roadmaster of the Delaware & Hudson at Albany, N. Y., was re-elected treasurer. Directors elected were O. H. Carpenter, general roadmaster of the Union Pacific at Pocatello, Idaho, who fills the unexpired term of Mr. Whisler; R. G. Simmons, assistant to engineer maintenance of way of the Chicago, Milwaukee, St. Paul & Pacific at Chicago; and W. M. S. Dunn, general roadmaster of the New York, Chicago & St. Louis at Bellevue, Ohio.

Addressing a combined session of the two groups, F. S. Schwinn, assistant chief engineer, Missouri Pacific Lines in Texas and Louisiana, and president of the American Railway Engineering Association, said that all the answers needed in maintaining the railroads in 40 hours a week are available

Abstracts appear below of all the committee reports and of the addresses of Messrs. Aydelott, Schwinn, Geyer, Kimball and Morrison.

THE PUBLIC MUST BE TOLD

In his address at the joint opening session on Monday, Mr. Aydelott discussed the overall problems of the railroads in dealing with rising costs and in competing with subsidized forms of transportation. Because "so much has been said in the past about the railroads being overcapitalized and overburdened with debt," Mr. Aydelott pointed out that the financial structure of the railroads has been "vastly improved" since the prewar years, indicating, he said, that sound managerial policies exist in the railway field.

Mr. Aydelott asked his listeners, in their contacts in home communities, to state the case of the railroads, pointing out their accomplishments and the extent to which they contribute to the welfare of the people in the communities served. With forces in this country promoting policies which would eventually destroy the railroads as free institutions, Mr. Aydelott advocated that the public and its representatives in Congress and in the state legislatures should be told that whatever happens to the railroad industry to bring about its nationalization can happen to any of the free institutions in this country, "whether they be in the field of industry, mining, merchandising or farming." He said that the acceptance of subsidies from the federal government is an invitation to government direction of the enterprise, and that the long-range effect of subsidies is to pauperize all forms of transportation.

Among the representatives of the Chesapeake & Ohio at both the Roadmasters' and the Bridge & Building conventions were: Back row (left to right): E. B. Jones, supvr. b. & b.; M. J. Hubbard, gen. supvr. b. & b.; H. A. Boehling, asst. cost engr.; H. M. Harlow, asst. gen. supvr. b. & b.; S. H. Poore, asst. engr.; R. P. Wilson, asst. supvr. b. & b.; L. B. Hewlett, div. engr. Front row (left to right): H. E. Kirby, cost engr.; C. B. Porter, asst. ch. engr.; C. J. Geyer, vice-pres.; W. P. Nichols, gen. supvr. trk.; A. E. Boots, asst. ch. engr. (retired)

APPRAISING THE SHORT WEEK

Maintaining the railroads in 40 hours a week is not a problem but a job that must be done—a job of planning, study and work—said Mr. Schwinn in his address at one of the joint sessions of the two groups. Railroad men have all the answers required in performing this job, he declared; all that they have to do now is to apply them.

As the basis for this viewpoint Mr. Schwinn drew an analogy between the situation involved in reducing the work week for non-operating employees from 48 to 40 hours and that which confronted the railroads in 1918 when the work week was reduced from 60 to 48 hours. Rather than the number of maintenance-of-way and structures employees being increased as a result of that development, Mr. Schwinn pointed out that there was a gradual decrease, which amounted to 35 per cent 30 years later. This decrease occurred, he said, in spite of an increase of 70 per cent in the amount of freight traffic and an increase of 40 per cent in train speeds.

This showing was made possible, said the speaker, because of better and more permanent bridges and track, the development of new organizational methods for the employment and distribution of manpower, long strides in the mechanization of maintenance work, the development of means for stabilizing the roadbed and the general adoption of the creosoted tie. Pointing out how these same expedients can be of help in the present situation, Mr. Schwinn said that "quite likely we can go much further in the performance of work by machines rather than by hand," that there will be other machines developed to perform work which is still being done manually, that "we can do very much more" in the stabilization of the roadbed and track, that there are good prospects for securing even greater life from crossties, and that "the use of longer rails with resulting large economies is definitely in the picture of the future."

Saying that railroading under the free enterprise system is founded on economics, and that economics supplies the urge for most railway activities, Mr. Schwinn added that maintenance men are "facing another economic necessity today." He recited figures showing how increased costs and taxes have affected railway earnings. As a consequence, he stated, the economic necessity for reducing costs is even greater in 1949 than it was in 1918. "There is the incentive," he said, "which will cause history to repeat itself."

Others Add Comments

Mr. Schwinn's address was followed by a round-table discussion of the 40-hour week in maintenance-of-way work, with the panel of speakers consisting of C. M. Chumley, engineer maintenance of way of the Illinois Central; G. L. Sitton, assistant chief engineer of the Southern; and A. A. Cross, engineer maintenance of way of the New York, New Haven & Hartford. Explaining that, with few exceptions, all maintenance forces on his road were working a straight five-day week, Monday through Friday, Mr. Chumley said that the short week had been in effect two week ends, one of them containing the Labor day holiday, and that no difficulty had been experienced. The objective on his road, he said, is to accomplish as much work in 40 hours as was done in 48 hours, without increasing the number of men. This would be made possible through greater efficiency, he said.

A question raised by Mr. Sitton was whether, under present practices, the railroads would get 40 hours of constructive work out of their maintenance forces each week, or something less than this figure. The roads must decide, he said, whether section foremen are to continue to patrol their sections, pointing out that little progress had been made in relieving them of this responsibility. By closer supervision and other measures, he added, the maintenance forces must be left free to devote all the available time to constructive work.

Mr. Cross said that the roads must depend on their supervisory officers in making the 40-hour week work, and that for this reason such officers must be relieved as much as possible of all extraneous duties. The progress that has been made in mechanization has placed the roads in a better position to meet the situation than they were in 1918, in the opinion of Mr. Cross. A responsibility of maintenance men, he said, is to recognize the need for new and improved power tools and machines, and to cooperate with manufacturers in developing them. On the New Haven, said Mr. Cross, the maintenance forces are working a

straight five-day week, except that at 14 locations, including large terminals, the gangs may be worked on a staggered basis between November 1 and April 1, so that men will be on duty on Saturday to handle emergencies. Similar arrangements can be negotiated at other locations if necessary, he added.

MUST STUDY CAUSE AND EFFECT

Supervisors can contribute to the solution of the railroads' problems if they will examine the conditions under which work is done and "through the months and years couple the results up with the execution of the job and see if you can figure out better planning," said Mr. Geyer, in his address before the joint session on Tuesday afternoon. The contribution that the two associations have made to the railroad industry, said Mr. Geyer, has been a result of the efforts of those members who, imbued with a desire to do a good job at low cost, have noted the results of their daily work and, at the annual meetings, "have told others what they have accomplished and listened to the accomplishments of others."

Mr. Geyer drew an analogy between farming and railroad maintenance, and said that the successful farmer or maintenance officer, in the event of a failure, will not be satisfied with the first excuse that comes to mind, "but will review the case history with the intent of finding the real cause of the failure, and do everything in his power to avoid premature failures, extend life cycles, and thereby reduce annual costs." If maintenance policies and plans are well conceived, maintenance officers of supervisory rank will become real supervisors instead of mere "trouble shooters."

Mr. Geyer expressed the belief that it is practical and economical to smooth out maintenance work over the years to avoid either heavy or light expenditures in any one year. This policy, he declared, will prolong the life cycle of materials, will permit work to be planned in a more orderly manner, and will bring about better labor relations because of greater regularity of work. The end result, he said, will be lower maintenance costs and better and more uniform maintenance.

In Mr. Geyer's opinion the 40-hour week presents no new problem—"it is simply another high cost obstacle that must be overcome." He told his listeners that "you have done an excellent job in overcoming these cost obstacles in the past and you can whip this one if you will review your planning, dust off your old economy studies, and don't forget to look for new ones."

THOUGHTS ON SAFETY

"A railroad section is just as dangerous as the foreman permits it to be, and just as safe as management *wants* it to be," stated Mr. Kimball in his address before the joint session on Tuesday afternoon on Personalizing the Safety Concept. Just as military leaders ride at the front of their columns to obtain an overall strategic concept of conditions, Mr. Kimball said that the leaders on the railroads must place themselves at the forefront, holding Safety First above everything else so that the employees may live in health and happiness. While nature's law is "survival of the fittest," Mr. Kimball said that today's law is "survival of the careful," and railroads must progress with this in mind.

In concluding, Mr. Kimball said that "one of the blessings of today is that not a section laborer or carpenter can be killed without the president of his road knowing about it." He emphatically denied that progress must be paid for in broken lives, and said that the responsibility for the safe operation of mechanized appliances and equipment, as well as the safety of the workmen, rests upon the shoulders of the supervisor.

CONDITIONS ON THE PACIFIC COAST

Elements of railroad construction and maintenance peculiar to the West coast were the subject of the address by Mr. Morrison. He pointed out that all the western states are traversed by numerous mountain ranges with intervening valleys and plateaus, and that the western railroads are "faced with a never-ending series of ups and downs." Illustrative of this condition, he said, is the fact that the Southern Pacific traverses territory with a range of elevation from 200 ft. below sea level to 6,900 ft. above sea level.

Mr. Morrison then described the principal physical characteristics of the various lines of the Southern Pacific, including the nature of the country traversed, grades and curvatures, and any special maintenance problems that are encountered. Some of these difficulties are the prevalence of slides in the Cascade mountains, the hazard of fire on a line where the embankments are built of material dredged from the bottom of a lake, the maintenance of 6.3 mi. of snowsheds on the line over the Sierra Nevada mountains, the necessity of coping with snowfalls in these mountains that have amounted to as much as 677 in. in a single winter, the maintenance of 11.8 mi. of timber trestle across Great Salt Lake, severe subsidence on a stretch of track carried on an embankment across a tidewater slough with 80 ft. of mud over the original sand bottom, sudden cloudbursts in desert country, and the lack of water for locomotives in arid regions.

*Committee Reports**

Technical committee presented reports on six timely subjects of interest to track-maintenance officers. These reports are abstracted below.

DEVELOPMENTS IN TRANSPORTATION

"In studying recent developments in the transportation of maintenance-of-way track forces and materials, it becomes readily apparent that the greatest advances have been in the field of highway transportation." This was the opening sentence of the report on that subject, prepared by a committee headed as chairman by L. F. Barrs, roadmaster of the Seaboard Air Line at Richmond, Va. This conclusion and the report in general were based on the replies to a questionnaire received from 14 roads reaching into all parts of the country.

The committee said that roads using trucks for the

*These reports will be published in full in the October issue of *Railway Engineering and Maintenance.*

regular transportation of section forces to and from work "report minimum savings in productive working time in the order of one hour a day for those forces so equipped." It went on to say that the practice of using highway transportation for bridge and building forces is even more widespread than with section forces, and described typical practices in this respect.

Next, the committee described current practice in the use of highway vehicles for transporting roadway department mechanics, welders, water service employees, and similar personnel. It also reported that the practice of assigning highway transportation to track supervisors and other similar personnel is on the increase. Other subjects discussed included the practice of providing driveways along the right-of-way, the use of highway vehicles for transporting large gangs, the transportation of heavy equipment, such as bulldozers and draglines, on the highways, and the selection of highway vehicles for different purposes.

Discussing motor-car transportation, the committee noted that the improvements have been largely in facilities for the protection of such cars when operating over the track, such as portable telephones. It said that all roads making use of highway transportation for section forces use motor cars for track-inspection work, "for no better means has been found to carry out this work."

THE GOOD-HOUSEKEEPING HABIT

"Good housekeeping habits are essential to efficient railroad operations and maintenance," said the Committee on Developing Good Housekeeping Habits Among Track Employees, of which C. E. Neal, general track supervisor of the Southern Pacific at San Francisco, Cal., was chairman. However, the extent to which these habits should be developed, said the committee, depends entirely upon their economic value to each railroad, with extremes in either direction being equally wasteful.

Defining good housekeeping, in its application to the railroads, as the economical management of properties by the planned use of men, monies and materials to insure full value for every dollar expended, the committee went on to discuss the essentials of adequate well-kept tool houses, the necessity of keeping motor cars, push cars and power tools clean and well-lubricated, the requirements of adequate gasoline storage facilities, and methods of handling materials.

Discussing good housekeeping as applied to track, the committee said that standards will vary with the degree of importance of the track. It went on to say that a job that looks good will usually be a good job, "for if the men take enough pride in their work to see that the track is cleaned up, they will also take pride in the quality of their work." The committee then developed the relationship between good housekeeping and safety, saying that the number of personal injuries sustained by railroad men falling over material and because of uneven ground conditions, "is astounding."

Weed control as a problem in good housekeeping was then discussed, after which the committee stressed the importance of making good housekeeping part of the daily routine. Finally, it brought out the responsibility of each class of personnel—the men who do the work, the foreman, the supervisor and management—in the development of good housekeeping habits.

PROPER BALLAST DISTRIBUTION

Increasing costs of labor and ballast have made proper ballast distribution more important today than ever before, and railroads are justified in using more elaborate means now in accomplishing that result, according to the committee reporting on Economies to Be Gained Through the Proper Distribution of Ballast. A. W. Schroeder, chief engineer of the Chicago & Eastern Illinois, was the chairman of this committee.

Reciting the economies possible through the proper distribution of ballast, the committee stated that applying ballast too heavily results in wasted material and labor, bad footing, added car-miles and car use in handling ballast wasted, poor drainage, poor appearance, and excessive labor for installing ties and in lining and surfacing track. Insufficient ballast is also undesirable, and improper distribution results in lack of uniformity in the track structure and in riding conditions, it said.

The committee then outlined the points to be observed in assuring that ballast will be distributed properly. The nature of the work and planning to be done in advance of the ballasting operations, the types of ballast cars and auxiliary equipment to be used, the number of men required, and the procedure to be followed in doing the work were covered in this part of the report. Types of equipment available for use in equalizing ballast following its distribution were also mentioned.

Good judgment on the part of the supervisor in charge is an important factor in the economical distribution of ballast, stated the committee. Close supervision in this respect will pay dividends by saving labor and material, it added.

The Southern had a large representation at the conventions. Standing (left to right): A. H. Graham, div. engr.; H. T. Arthur, div. engr.; J. W. Fulmer, engr. of trk.; A. E. Hendrix; trk. supvr.; R. L. Fox, div. engr. (pres. Roadmasters' Assn.); A. R. Bookout, asst. div. engr.; W. H. Wood, div. engr.; C. W. Sigmon, trk. supvr.; J. R. Goodman, asst. trk. supvr.; C. M. Setzer, b. & b. supvr.; J. M. Peek, student app.; D. Wetterau, asst. trk. supvr. Seated: G. S. Baron, student app.; J. R. Hopper, trk. supvr.; J. T. Roberts, trk. supvr.; M. P. Oviatt, b. & b. supvr.; T. M. von Sprecken, asst. to ch. engr.; J. F. Griffith, asst. ch. engr. m. w. & s.

ATTRACTING YOUNG MEN

The task of stimulating the interest of young men in maintenance-of-way work as a career is not only a job for direct supervision but for management as well, according to the committee that reported on this subject, which was headed as chairman by W. M. S. Dunn, general roadmaster of the New York, Chicago & St. Louis at Bellevue, Ohio. The committee recommended that "sympathetic and active programs" be set up by the industry for stimulating this interest, and said that the results will depend "entirely upon the efforts put forth by the individual railroads."

The committee first listed the objections and criticisms most frequently heard about railroad maintenance engineering as a career. These are: (a) The railroad industry itself has no future; (b) job insecurity; (c) no chance for promotion; (d) too little knowledge of the job; (e) insufficient salary; and (f) conditions of work. Suggestions for overcoming these objections were then offered under the following main headings: (1) Secure the young man's interest in railroad work as a career; (2) make a positive effort to secure good men; (3) prepare a program of pay, training, advancement, and security; and (4) make working conditions as attractive as possible.

The men who make maintenance-of-way work their career were divided by the committee into two groups, namely (1) those who enter the service with a high school education, and who are usually referred to as practical men, and (2) technically trained men with university or college degrees in engineering. As to the need for men in the first group the committee expressed the opinion that the seniority practices of the railroads are an important factor in discouraging men of this type from seeking railroad jobs. It was suggested that the railroads work with the labor organizations with the view of reaching an agreement whereby a percentage of outstanding men in maintenance gangs could be kept on a separate roster for special training.

To attract men in the second group, the committee suggested a course of action to apply not only in interesting such men in the beginning, but in following through after they have been employed. The committee said that men employed as trainees are as much an investment on the part of the railroad as an expensive piece of machinery, and are "entitled to at least equal consideration."

ABUSE OF TOOLS AND EQUIPMENT

Using a tool or a unit of equipment for a purpose for which it was not designed, and insufficient instructions in proper care and use, are the two factors which contribute most to the abuse of tools and work equipment, according to the Committee on Preventing the Abuse of Tools and Work Equipment. S. E. Tracy, superintendent of work equipment of the Chicago, Burlington & Quincy, was the chairman of this committee. Lack of skill, improper or insufficient care while in use, and improper protection while not in use, were listed as factors contributing to abuse, but the opinion of the committee members was about evenly divided as to which of these might be the most important factor.

The rapid increase in the ownership and use of work equipment has brought about additional responsibilities that are not as yet fully recognized, said the committee. A permanent organization for assuring the proper care and use of such equipment is essential, it continued, and added that the organization should be large enough to provide frequent individual instructions to equipment operators and to acquaint supervisory officers with the methods of operation.

Other phases of the subject discussed by the committee included the protection of tools and equipment when not in use, means for assuring proper lubrication of equipment, and the problem of keeping hand tools, catalogs and instruction books with each machine. The committee offered the following conclusions:

"Abuses from any cause will lead to immediate or premature failure of a tool or a unit of work equipment. The first step in preventing abuses of tools and work equipment is to eliminate the causes. They can be minimized and should be reduced in direct proportion to the type of organization set up to control them and the facilities furnished such organization. Reference has been made to the type of organization suggested by the A.R.E.A. The cost of such an organization can be readily calculated, but it is difficult to calculate the savings which can be realized by preventing abuse, and the increase in operating efficiency which will result. Delays due to breakdowns are costly and far reaching in their effect upon economical operation."

SUPERVISION OF TRACK GANGS

"Men will put forth more effort in their work to please their supervisor than they will because of any loyalty to their company," according to the report of the Committee on the Relation of Supervision to the Maximum Production of Section Gangs, which was headed as chairman by O. H. Carpenter, general roadmaster of the Union Pacific at Pocatello, Idaho. The committee stated that the "supervisor is the railroad company to many of the men working under his supervision, and if his handling of his men is proper there will be much personal loyalty to the supervisor rather than to the railroad company itself."

For the most part this report consisted of a discussion of the duties and responsibilities of "those employees ranking between the division engineer and the foreman in charge of track gangs—namely: general or division roadmasters, district roadmasters or supervisors of track, and general foremen or other employees who have overall charge of a number of track gangs." The training and education of foremen and men was mentioned as a "continuing duty of the supervisor, so important that his success in the training of his men is almost the measure of his success in handling his work."

The organization of his men and their work was listed as the "second great task" of the supervisor. This task was pictured as having become increasingly important as sections have increased in length over the years and as the number of men in the gangs has been reduced, requiring that gangs spend a maximum amount of time in actual productive work. The organizational skill of the supervisor is subjected to particular trials, said the committee, where the activities of several large extra gangs must be coordinated.

In a discussion of maintenance work involving the use of extra gangs equipped with machines, the committee said that "it must be the business of the supervisor to know that his machines are kept in working order." The supervisor must also see that his gangs are furnished with the proper tools "consistent with the work to be done, and that they are properly used and cared for." The supervisor is also responsible, said the committee, for assuring the proper discipline of his gangs, for enforcing safety rules and practices, and for making frequent checks of boarding and lodging facilities. He should visit all gangs under his supervision as often as possible, he should keep his gangs lined up with work for several days ahead, he should be well acquainted with the abilities and the shortcomings of his foremen, and he should make sufficient checks of the work after it has been completed to know that it has been done properly.

Shop Facilities

By F. E. RUSSELL
Superintendent of Motive Power,
Southern Pacific, Sacramento, Cal.

Inspection pit, depressed floor between pits, elevated work platforms and overhead ventilators in the Taylor Yard Diesel shop

The change from steam to Diesel-electric motive power, now taking place throughout the country, is having a far-reaching effect on maintenance facilities. The two types of power are substantially different insofar as inspection and maintenance requirements are concerned, and it is necessary that extensive changes in facilities be made. Some of the existing steam locomotive facilities will be abandoned; others will be remodeled; and some new installations are required.

Trend in Motive Power

During the past ten years the trend in motive power on railroads in the United States has been increasingly toward Diesel to replace steam. The first Diesel locomotives were placed in service approximately 25 years ago. Since 1938, Diesel locomotive orders have grown steadily with a corresponding decrease in the number of steam locomotives on order. In 1948, approximately 2,100 Diesel locomotives were ordered, while the total number of steam locomotives was 69.

On the Southern Pacific, the first Diesel-electric power was used in 1936 on the Streamliner "City of San Francisco," then owned by the Union Pacific and jointly operated by the Southern Pacific, Union Pacific and Chicago & North Western. In 1938, a new Diesel-powered 17-car train, jointly owned and operated by the three railroads, was placed in service. In 1939, the first Diesel switchers were obtained, and during the last two years road and road switcher locomotives have also been purchased. Including those on order, the Southern Pacific System will have a total of 407 Diesel-electric locomotives (969,850 hp.) in service by June, 1950. At the same time there will still be an estimated 1,600 steam locomotives in service. For the United States as a whole, the latest Interstate Commerce Commission report shows that 38,073 steam locomotives were operated during the fiscal year ending June 30, 1948. During the same fiscal year there were in service a total of 9,803 locomotives other than steam, of which a large majority were Diesels.

While the number of Diesel-electric locomotives is steadily increasing, therefore, steam locomotives still greatly outnumber the Diesels and will for the next few years. It is obviously necessary for the railroads to have maintenance facilities for both types of power.

Types of Facilities Required

In some cases, as for instance when the Diesels are switchers and road switchers, the same repair facilities can be used for steam and Diesel, although some additions and modifications are necessary to make them suitable for Diesel maintenance. Existing roundhouses and inspection pits are satisfactory, but some special tools for working on Diesel engines and electrical equipment are required, and fueling, engine-cooling-water and sanding facilities must be installed. For heavy repairs, existing shops where pits and necessary lifting equipment are available can be used.

For Diesel-electric road locomotives, new or completely remodeled facilities are required for routine maintenance and running repairs. It is imperative that these facilities be so located and constructed that a minimum of time will be required for maintenance. The initial cost of Diesel-electric power is considerably higher than that of steam, and to offset this higher first cost modern facilities which will make possible maximum availability and efficient utilization must be provided. Existing steam locomotive facilities are not suitable. Heavy repairs to Diesel locomotives can be handled in existing steam repair shops. It is necessary, however, that work platforms and benches be installed, and in many cases some rearrangement of the shop is desirable. At intermediate points and turn-around or non-maintenance terminals, no extensive changes in facilities are necessary. Requirements at intermediate points are dependent on the length of run, and where necessary fueling, cooling-

This article is an abstract of a paper presented at the June semiannual meeting in San Francisco, Cal., of the Railroad Division of the American Society of Mechanical Engineers.

for Diesel Motive Power

Outline of the requirements for effective Diesel locomotive maintenance and repairs—Locations for system-wide coverage

water and sanding facilities are installed. In addition, at non-maintenance terminals, facilities must be provided for making inspections required by the Interstate Commerce Commission and for making minor repairs when necessary.

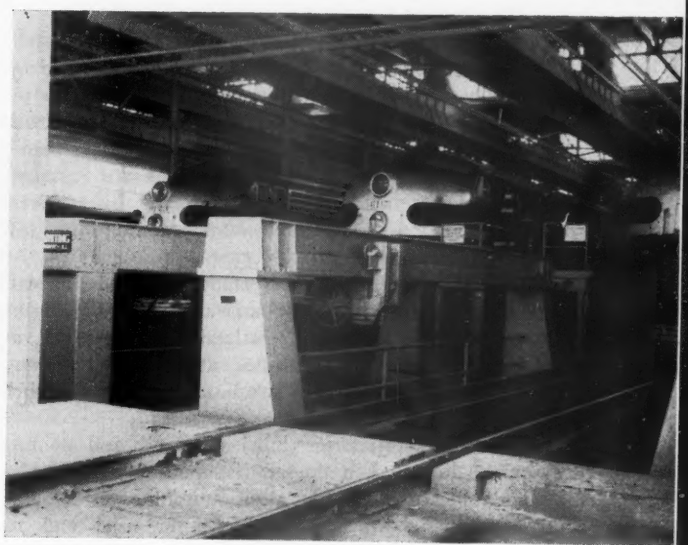
The shape of most roundhouses, with all tracks converging at the turntable, is such that the required space for efficient inspection and servicing of Diesels is not available. Multiple-unit Diesel locomotives are so long that if they are taken into a roundhouse over the turntable they will either extend onto the turntable or it will be necessary to separate the units, with consequent loss of time and availability. The multiple-unit Diesel locomotive is too long to be turned on the normal turntable. As an example of the difference between the two types of power, a four-unit Diesel freight locomotive is 201 ft. 6¼ in. long, while the largest steam locomotive on the Southern Pacific has a total length, including tender, of 125 ft. 5 in.

It has been determined from experience that the most suitable type of building for Diesel locomotive maintenance is one which is generally rectangular in shape, with tracks running through it if possible, and having track pits and proper working space around the locomotive. The latter includes a depressed floor level between the pit rails to facilitate truck work and inspection of brake equipment, and an elevated platform at locomotive floor level. Pits must be of sufficient depth, and must be well drained and well lighted.

Other basic requirements for the Diesel locomotive maintenance shop include cranes for lifting material out through the roof of the locomotive, facilities for removing wheels and traction motors or trucks, and supply lines for fuel, lubricating oil and cooling water. Included as part of the shop or located in the immediate vicinity should be a small machine shop, electric repair room, air-brake and piping room, filter cleaning room, lubricating oil testing and reclamation facilities and storage, fuel-oil storage, sanding and cooling-water facilities, a machine for washing locomotive exteriors and battery charging equipment. Some of these facilities, such as the machine shop, electric shop and air-brake and piping room, are already in existence at locations where steam locomotives have been maintained. Others must be provided when the Diesel maintenance shop is established. Another important factor in efficient maintenance of Diesel locomotives is proper store facilities at a convenient location with respect to the service areas. They are necessary in order that worn parts can be removed and new or rebuilt parts applied to the locomotive while in shop with a minimum of delay.

New Diesel Shop at Los Angeles

The first completely equipped shop on the Southern Pacific lines for maintenance of Diesel-electric road locomotives was built at Taylor yard in Los Angeles,



Drop pit inside the shop at Taylor yard, showing drop pit tables and locomotive body supports

Drop pit outside the shop, with truck release track and machine shop in background

Cal. Taylor yard has for many years been a maintenance terminal for steam locomotives, and at present both types of power are being handled. Present plans call for the eventual abandonment of the roundhouse and turntable which are required for steam-locomotive maintenance.

At Taylor yard a new building, 351 ft. long by 140 ft. wide, was built. This building contains six maintenance tracks, each having an inspection pit 215 ft. long. The pits slope slightly toward the center for drainage. The floor level between pits is 38 in. below the top of rail. Elevated platforms at locomotive floor level are provided between all tracks and between the tracks and longitudinal walls of the building. Also, since the tracks do not run through the building, the elevated platform level is continuous at the stub end of the tracks. At the same level, space is provided for the stores department, a machine shop equipped for handling small parts and a filter cleaning room. At the depressed-floor level, there is a parts storage space and oil reclamation room. Ample electric lighting is provided inside the pits and under the elevated platform. This permits of easy inspection of the under side of locomotive from within the pits and of running gear from outside the pits.

All Necessary Facilities Provided

Two of the maintenance tracks are served by a drop pit, which is used for changing trucks. The drop pit extends to a truck release track outside the shop leading to the machine shop, where truck repairs are made. Three two-ton overhead traveling cranes are installed to facilitate removal of parts from the locomotives. Above each track is a ventilator running the full length for removal of exhaust gases.

Inside the shop, piping for removal of used lubricating oil and for addition of lubricating oil and engine cooling water is installed. Outlets for these pipes, as well as for steam and air lines, are provided at convenient locations. Motors are installed in the lubricating oil lines.

Pumping facilities for lubricating oil and cooling water are installed in the oil reclamation room. Also included in this room, in addition to the oil reclaiming equipment, are storage tanks for used and reclaimed lubricating oil and for cooling water. Underground tanks for new and used lubricating oil are installed near the Diesel shop.

Among the additional equipment to be provided is a Diesel-engine load tester. This is a device for applying an artificial load to the Diesel engine and main generator following repairs, and permits testing under full-load conditions before leaving the shop.

The main inbound track to the Diesel shop, known as the service track, is provided with an automatic two-brush washing unit, sanding facilities, fuel-oil and cooling-water outlets and an inspection pit. Sanding is done from two overhead tanks having four flexible outlets so that all sand boxes on one unit of the locomotive can be filled at the same time. Fuel-oil outlets are so spaced that all units of the locomotive can be fueled at once. Fuel-oil and cooling-water storage tanks and pumping facilities are located in the vicinity of the service track. Distilled water for engine cooling is obtained at the present time by collecting the condensate from the heater used for heating steam-locomotive fuel oil.

A modern, well equipped control laboratory has been established at Taylor yard, its primary function being to check lubricating oil and cooling water for any conditions which might lead to crankcase explosions or serious damage to equipment.

Samples of lubricating oil and cooling water are taken from each engine in a locomotive as soon as the locomotive arrives at the service track. Analyses are made prior to dispatching the locomotive on its next trip, and thus any deficient condition in lubricating oil or cooling water can be remedied before it has a chance to cause damage to equipment.

This type of laboratory control also permits extension of draining periods on lubricating oil, the oil being drained on the basis of laboratory tests instead of arbitrarily on a mileage basis as would otherwise be necessary. When it has been determined from laboratory analysis that the lubricating oil should be changed, it is drained from the crankcase with suction pumps to the underground storage tank. It is then put through the reclamation plant in 90-gal. lots and returned to storage. The reclamation process is followed closely by the laboratory and acceptance or rejection of the reclaimed oil is based on laboratory analysis.

The control laboratory is housed in a newly constructed one-story building about 44 ft. long by 24 ft. wide, and is equipped with modern working facilities including steel work benches and fume hoods. Equipment includes Zeitfuch kinematic viscosimeters for rapid determination of oil viscosity and an Applied Research grating-type emission spectograph for analysis of samples of used lubricating oil to determine, in a rapid manner, the possible contaminants such as metals in the lubricating oil which may lead to equipment failures.

Presently there are assigned and working out of Los Angeles terminal 40 four-unit 6,000-hp. Diesel freight locomotives, five three-unit 6,000-hp. Diesel passenger locomotives, four 1,500-hp. branch-line Diesel locomtives and 42 Diesel switchers. In the near future five additional 6,000-hp. freight and one 6,000-hp. passenger locomotives will be added to this service. All maintenance work on the road locomotives is handled progessively on a mileage basis.

Territory Protected at Los Angeles

The passenger locomotives operate in a pool, making one round trip between Los Angeles and Tucumcari, N. M., and two round trips between Los Angeles and San Francisco every five days. During this five-day period a locomotive is brought to Taylor yard three times, two of which are for very short periods when the only work performed is washing, fueling, sanding, check of lubricating oil and cooling water and visual inspection at the service track. The third time is for a period of approximately ten hours, during which, in addition to the work mentioned above, the locomotive is taken into the Diesel shop for required mileage maintenance.

Of the 40 freight locomotives, eight operate on the

San Joaquin division between Los Angeles and Bakersfield, Cal., six operate on the Coast division between Los Angeles and Watsonville Junction, Cal., and 26 operate east out of Los Angeles to San Antonio, Tex., or intermediate points. These locomotives are taken into the Diesel shop approximately every 2,500 miles for mileage maintenance work. Between the times they go into the shop they are taken to the service track for servicing and visual inspection. For example, locomotives operating on the San Joaquin division are given a heavy turn in the Diesel shop only after eight round trips and those on the Coast division after five or six round trips.

In addition to the mileage maintenance, wheels on all locomotives are checked every 15 days for rim thickness, flange wear and tread wear. When a wheel reaches the limit of wear and requires renewal or turning, the complete truck is placed on the drop table and removed and a replacement truck applied. The removed truck is then taken to the machine shop, where a ten-ton overhead crane is available to facilitate replacement of wheels and traction motors.

A modern 50-in. car-wheel lathe is being installed, in a new building conveniently located adjacent to the Diesel shop, for turning Diesel-locomotive wheels. A Magnaflux inspection unit for inspection of wheels and axles will be provided in this wheel lathe building.

The machine shop at Taylor yard is equipped to make repairs to some of the parts removed, such as cylinder heads and liners, pistons and wrist-pin bushings.

The electric shop repairs relays and reconditions brush holders, voltage regulators and load regulators. Other parts, including injectors, traction motors and main generators, are returned to the manufacturer for repair.

Work on the Diesel maintenance facilities at Taylor yard was started in April, 1947, and is complete with the exception of some minor items. The total cost of the entire facility is $1,123,460, including the laboratory which cost $14,637.

No special facilities have been provided for these locomotives at terminals away from Los Angeles, except for fueling and in some cases for sanding. At these terminals only emergency maintenance work is performed. Fuel is added, lubricating oil and cooling water levels are checked and the locomotive is given a visual inspection.

Facilities at Ogden and Roseville

Present plans call for a total of 27 four-unit 6,000-hp. Diesel freight locomotives to be placed in service this year to operate between Ogden, Utah, and Sparks, Nev. Also, 22 freight locomotives have been ordered for operation between Roseville, Cal., and Eugene, Ore. Maintenance facilities will be installed at Ogden and Roseville.

At Ogden two 215 ft. outside inspection pits, with fuel and cooling-water outlets, are available. Future plans provide for a Diesel maintenance shop which consists of a part of the present steam-locomotive erecting and machine shop, with a building extension added to give the required length. Inside the shop will be three 215-ft. inspection pits and three servicing platforms. Also included in the future plans are complete lubricating oil facilities.

Service track at Taylor yard, showing inspection pit, sand tanks and outlets, washer, and fuel and cooling-water outlets

At Roseville, present steam-locomotive facilities include two roundhouses with turntables, one for large locomotives and the other for small locomotives. Because of space limitations a portion of the small roundhouse will be removed and a Diesel maintenance shop, with inspection pits and other features similar to those in the Taylor yard shop, will be built. When first built, this shop will have only three maintenance tracks, but at a future date when the roundhouse is abandoned the shop will be extended to include additional maintenance tracks. A stores-department building will be erected adjacent to the shop and necessary fuel-oil, lubricating-oil and cooling-water storage and piping will be installed. Plans provide for two outside inspection pits with fuel and cooling-water outlets and sanding facilities and with washers adjacent to them.

General Shop at Sacramento

On the Southern Pacific, heavy repairs to Diesel engines and parts are handled in the general shops at Sacramento and Los Angeles. In these shops a portion of the steam locomotive erecting shop has been designated as the Diesel repair area and special facilities to expedite the repair work have been provided.

At Sacramento these special facilities include the following:

(1) Portable scaffolding, mounted on casters, of proper height for working on engines when they are on the floor.

(2) Special piston racks, mounted on casters, which hold eight pistons each.

(3) Wooden benches, the tops of which are covered with linoleum to prevent damage to parts, for working on various subassemblies.

(4) Universal positioners, equipped with adapters to accommodate all types of cylinder heads, which can be revolved and held in any position for the various operations.

(5) Large cleaning tank for removal of carbon from

heads, connecting rods, etc., and small tanks for aluminum pistons and other parts.

(6) Portable wooden step sets for convenient entrance to doorways of the locomotives.

(7) A 10,000-gal. storage tank for treated cooling water and pump for delivery of the water to the locomotive.

(8) Booster pump for lubricating oil, providing forced circulation of the oil throughout the entire lubricating system.

(9) Exhaust pipe on the test-run pit for removal of gases from the shop.

(10) Water rheostat for testing the output of generators and engines.

The only time a road locomotive is brought into the shop is when heavy repairs to an engine, such as replacement of an engine frame or crankshaft, are necessary. Only the unit having the engine to be repaired is shopped; the engine is removed and a replacement engine is installed. The removed engine is then completely disassembled and overhauled.

Reconditioning of Diesel switcher parts, such as cylinder head assemblies, cylinder liners, pistons and connecting-rod assemblies, is also done at Sacramento general shops. When a locomotive is shopped at a division roundhouse the worn parts are removed and sent to Sacramento and overhauled parts already on hand are installed. The worn parts are reconditioned at Sacramento and then placed in store stock for shipment where next required. Switchers are shopped at Sacramento when it is necessary to change out the engine or make other repairs requiring heavy lifting equipment.

A change that will probably take place in a few years in Southern Pacific shops is in the amount of manufacturing. Various parts for steam locomotives, including forgings and brass and iron castings, are made at the general shops. Many of these parts are carried in stock in semifinished form and finished as necessary when applied to the locomotive. Parts for Diesel engines, on the other hand, are precision made by the engine builder and interchangeable so they can be immediately applied to any engine of a given type. Because of the special machine tools and other equipment that would be required it is unlikely that railroads will manufacture Diesel parts in any volume. This will have an unpredictable effect on personnel and machinery requirements at the shops.

Facilities at Outlying Points

As additional Diesel locomotives are placed in service and steam locomotives are retired, extensive changes in requirements for maintenance facilities at outlying points will take place. Studies have been made which indicate that at some points present steam facilities, including roundhouse and turntable, can be abandoned completely. At all points, heavy fuel and water facilities now required for steam locomotives will be abandoned. At many of these terminals turntables will be retained for turning Diesel switchers, road switchers and single-unit road locomotives. Diesel fueling, cooling water and sanding facilities will be installed. Other changes at these locations will include in some cases abandonment of such facilities as machine shop, boiler shop and power plant.

Conclusion

It is evident that extensive changes must be made in the next few years as the railroads change from steam to Diesel locomotives. A considerable expenditure of money is involved in providing these facilities, but they will pay for themselves in a short time by making possible efficient servicing and greater availability of the power. Quality of workmanship and morale of maintenance personnel is improved by establishment of modern facilities where shops and locomotives can be kept clean and orderly. The required facilities are in all cases a joint undertaking of the operating, mechanical, engineering and stores departments, and close cooperation between these departments is necessary in planning the size and type of facilities to be provided at various locations.

New Book . . .

VIRGINIA & TRUCKEE—A Story of Virginia City and Comstock Times, by Lucius Beebe and Charles Clegg. 62 pages, 6 in. by 9 in., bound in board, with illustrations, including photographs by the authors, maps by Frederic Shaw and decorations by E. S. Hammack. Published by Grahame H. Hardy, 2046 East 14th street, Oakland 6, Cal. Regular edition, $2; limited de luxe edition, $4.

This book, according to its own introductory paragraphs, "is the story of a railroad so endowed with romance and wealthy destinies as to have become a legend in its own lifetime, an integral portion of the greatest of all pioneering sagas. . . . It was once the richest railroad in the world measured in terms of return upon its investment and in the tangible assets it transported. Its traffic was in fabulous ores almost to the exclusion of all else. Its passengers and the arbiters of its operation were kings, more powerful . . . than many anointed heads surmounted by historic crowns."

Messrs. Beebe and Clegg have done well to bring out their history of the V. & T. in this particular year. Not only is 1949 the 80th year of the road's existence—but it also may be the last. For with the Comstock lode worked out, with no more silver to be carried down from Gold Hill and Virginia City, the V. & T. was compelled, early last January, to file with the Interstate Commerce Commission application for complete abandonment of its one remaining line, the 46.5 miles from Reno, Nev., to Minden. It is fitting and proper that its history should have been written before such abandonment, by men who were able to travel over the line and to explore what is left of the fabulous cities it served so long and so well.

The execution of the book is as good as its timing. As a history of the railroad itself, it appears to leave little or nothing to be desired. And because the histories of the V. & T. and of the Comstock lode are so inextricably interwoven, it is likewise an interesting vignette of one of the most romantic episodes in the history of the American West.

Good format; excellent illustrations; clear, large-scale maps; a bibliography, and rosters of V. & T. motive power and rolling stock all add to the book's interest and to its permanent value.

Three-day annual meeting in Chicago considers new practices that reduce operating expenses and save train time

ECONOMICS DISCUSSED BY A.A.R. SIGNAL SECTION

Officers of the Signal section include L. S. Werthmuller (above left), chairman, signal engineer of the Missouri Pacific; W. S. Storms (above right), vice-chairman, signal engineer of the Erie; and R. H. C. Balliet (right), secretary

Methods of facilitating train movements and of reducing operating expenses, by the use of modern signaling facilities, were the principal subjects discussed at the annual meeting of the Signal Section of the Association of American Railroads, held at the Edgewater Beach Hotel in Chicago, September 12, 13 and 14. L. S. Werthmuller, signal engineer of the Missouri Pacific, presided as chairman at the meeting, which was attended by 642 members, a new high record.

In addition to the opening remarks by Chairman Werthmuller, addresses were made by F. S. Schwinn, president of the American Railway Engineering Association, and assistant chief engineer of the Missouri Pacific Lines, Houston, Tex.; J. H. Aydelott, vice-president, Operations and Maintenance Department, A.A.R.; and W. J. Patterson, commissioner, Interstate Commerce Commission.

The reports presented by 10 of the standing committees dealt with specifications, requisites, circuits and other technical details of interest principally to signal engineers, and they are not discussed here. However, the reports of three committees of general interest dealing with economics of signaling, highway crossing protection and signaling practices are abstracted later in this article.

COMMENTS By CHAIRMAN WERTHMULLER

In his opening remarks, Chairman Werthmuller reviewed the activities of the Railway Signaling Club, founded in 1895, a predecessor of the Signal Section. He went on to emphasize the important fact that modern signaling systems which save train time thereby contribute to safety by reducing the time on the road, decreasing in the same proportion the chances for accidents to occur. In this regard, he said in part: "While early signaling was intended primarily for increasing safety, it was soon found that it provided other operating advantages and practically every type of signal installation now results in reducing train time or in effecting economy in some other manner which, in itself, often justifies the expenditure. Safety is still the primary object of signaling, but experience has taught us that safety is increased as we reduce train time or make other operating economies through various types of signal installations."

ADDRESS BY F. S. SCHWINN

When discussing the safety of train operation accomplished by signaling, Mr. Schwinn said: "It is particularly interesting to note that only one passenger fatality occurred for every 1,295,000,000 passenger-miles traveled on our railways during the first four months of this year. The same passenger-miles accounted for 12 fatalities 30 years ago. Your efforts and accomplishments in the interest of safety supplied their share toward making this wonderful and tremendous improvement possible. This safety record has been made by the railways without any quite unnecessary so-called safety-promoting federal legislation."

When commenting on savings in operating expenses effected by signaling, Mr. Schwinn said: "In later years you developed other uses for signaling, uses which were accompanied by extensive economic benefits. You designed signaling systems so that they would expedite the movement of trains and eliminate train stops. You effected substantial economies in operation by saving train-hours, engine-hours and car-

days, as well as fuel. Maintenance of equipment has been reduced by lessening wear and damage. In short, you developed safe signaling systems designed to save dollars.

"The value of signaling has become a matter of interest and importance to the operating departments of the railways. The developments of recent years have brought about many changes in railroad operation and operating requirements. They have witnessed the extensive substitution of Diesel for steam motive power, and the operation of heavier, longer and faster trains, with resulting fewer trains. These developments have in turn called for a careful study of the physical plant as a whole.

"While they have required the extension of sidings, they have also permitted and, in fact, necessitated the abandonment of other sidings. The changed operating requirements have brought about the necessity of extensive yard track changes, the development of new classification yards, the increased use of car retarders and similar improvements designed to expedite the movement of traffic. The changed operations have in some instances required extensive grade and line revisions and have even gone to the extent of calling for the abandonment of second main track. Most of these changes involved the incorporation of new signaling or alterations and modernization of the old signaling systems.

"Because of the close relationship of signaling to the economies of railway operation as finally developed in the physical plant, close cooperation is necessary with all other interested departments. In this cooperative effort the responsibility devolves upon the signal engineer to become thoroughly acquainted with the needs and the objectives of the operating department, and to supply the signaling answer to those needs and objectives. It is most imperative that the signal engineer keep himself thoroughly familiar with all phases of railway operation and that he also become an operating man."

In closing, Mr. Schwinn sounded a warning, saying "You are facing changing conditions and you are facing new conditions. You are aware of the decline in traffic and the extent to which other forms of transportation are being subsidized. You know of the excessive tax burden carried by the railways and of the restrictions which surround the entire railway industry. And you know of the efforts which are being exerted from many quarters, apparently aimed at its bankruptcy and socialization. These difficulties and these threats make it imperative that every avenue looking toward further economies in railway operation be explored. In that effort, the Signal Section can and should take a prominent lead. It can point the way for further improvements in train operations with safety and at a lower annual operating and maintenance cost."

ADDRESS BY W. J. PATTERSON

In his opening remarks, Mr. Patterson reviewed some of the provisions of the so-called Signal Inspection Act and the preparation of the signaling rules, standards and instructions, issued by the commission, effective September 1, 1939. He then explained the work which has been under way for the last year to revise these rules, standards and instructions, and stated that these regulations as revised, would, he hoped, be placed in effect before the next annual meeting of the Signal Section.

The regulations established in 1939 require the railroads to secure approval of the commission before making major changes in signaling. In his comments, Mr. Patterson explained that the railroads need not file requests for permission to make minor changes, his statement being as follows: "It has become a practice on a few railroads to file application for minor changes in existing signal systems, such as moving a signal only a few hundred feet with no other change. Such an operation obviously does not involve a material modification (provided stopping distance is not adversely affected) and should not be so considered."

Mr. Patterson then discussed a requirement concerning protection at handthrow crossovers between main tracks in automatic signal territory. He said: "Some railroads have completed this work; others have established definite programs, whereby a certain number of crossovers are completed each year; but there are still others which have no program and which only do the work when a crossover is cited as being in violation of section 51(b) by one of our inspectors, or when they have to provide such protection for a crossover in order to obtain approval of an application for signal changes. It is to the railroads in this last category that I would especially direct these remarks, and I suggest that these lines immediately establish a program so that we may know their intentions."

Concerning centralized traffic control and automatic block signaling Mr. Patterson said: "Our records show that on January 1, 1949, there were 10,163 mi. of road equipped with centralized traffic control. The commission has never ordered the installation of centralized traffic control as such, but in view of an apparent misunderstanding of some of our friends I should like to express a few thoughts on the subject.

"In the first place, I do not like the term centralized traffic control, as it is now commonly used, to designate a system by means of which trains are governed by block signals whose indications supersede the superiority of trains for both opposing and following movements on the same track. It is true that we use and define the term in our present Rules, Standards and Instructions, but since these have been in effect, some railroads have made installations with respect to which they have attempted to relieve themselves from complying with certain sections of our rules under the heading 'Centralized Traffic Control Systems' by the use of other names, such as manual block remote control, controlled automatic block systems, and what-not. All of these are forms of centralized traffic control. Still other roads do not call such installations by any name, but refer to them as operation by Rule 261.

"We hope to correct this situation in our revised Rules, Standards and Instructions by classifying all such installations as Traffic Control Systems under a comprehensive definition. So, no matter by what name each individual railroad calls such an installation, if it conforms to the definition it will be called a Traffic Control System by the commission, and will be referred to as such in the commission's publications.

"In the hearings which were held on petitions under Docket No. 29543 much testimony was introduced about the advantages of centralized traffic control. While I do not wish to appear to belittle the safety features of C.T.C., I am of the view that most of its advantages are economic and that this is the primary reason why so much of it has been installed.

"Strictly from a safety viewpoint, it is my opinion that operation by timetable, train orders, and a properly designed and installed automatic block signal system is preferable to operation by signal indication only, such as with a centralized traffic control system.

"Where an automatic block signal system is supplemented by the timetable and train order method of operation, there is a double check against the possibility of an accident. If an engineman overlooks his train orders, of if there is an error in an order, the signals, if properly arranged, controlled, and observed, will prevent two trains from colliding. On the other hand, if a signal displays a false proceed aspect, authorizing a train to proceed into a block which is occupied by an opposing train, and if the engineman is holding an order which tells him to stay where he is until a certain time, or until a certain condition has been fulfilled, the chances are that the engineman will obey the order, and an accident will not occur, notwithstanding that the signal is falsely clear.

"Here is a typical example of what I have in mind. One of the railroads in its monthly signal failure report to the commission mentioned a false proceed operation of a searchlight signal, which was the leaving signal at a siding. In its explanation of this failure the carrier stated that on this date a southbound freight train had an order to meet a northbound local freight at this siding. On approaching the southward signal the crew of the southbound train observed that the signal displayed a proceed indication, but stopped short of the signal in compliance with their meet order and reported the false indication by telephone. Shortly after, this signal changed to display a stop aspect at about the time northbound train was entering the south switch for the meet. If the trains had been operated by signal indication only, I need not tell you signalmen what might have been the consequences of that false proceed indication.

"With operation by signal indication only, you are putting all of your eggs in one basket—the observance of and obedience to the indications of wayside signals. If a signal is falsely clear or its indication is not observed or obeyed, there is nothing left to prevent an accident, especially when the safety of the train movement depends upon the integrity of a given signal."

When discussing road train communication, Mr. Patterson said: "Observations and studies have been made of installations of inductive and radio communication services on various railroads by engineers and inspectors of our Bureau of Safety, in the interest of keeping abreast of developments and to find out in what manner such devices may improve the safety of operation.

"From such studies as have been made it is evident that while these communication systems can improve the safety of operation when properly used to supplement existing safety devices and procedures, they have not yet been developed to the point where they can be used as substitutes for existing safety devices, such as automatic block signals, cab signals, train control or train stop systems, or even as a complete substitute for flagging procedures."

NEW SIGNALING PRACTICES

The report of the Signaling Practice committee includes brief statements of noteworthy changes in signaling practices and new appliances including: (1) an automatic switching system for controlling the routing of cars or cuts of cars from the hump in a classification yard to any classification track desired, actuated merely by pressing a button identified with that particular track; (2) dynamometer for testing spring switches; (3) method of remotely controlling gas switch heaters; and (4) roadside motor car indicators to warn of the approach of trains. Also, this committee presented a tabulation of types of highway vehicles recommended for railway signal work, this information having been assembled from answers to a questionnaire.

HIGHWAY CROSSING PROTECTION

The Committee on Highway Grade Crossing Protection submitted a report on various subjects including: (1) methods for focusing and alining flashing-light signals; (2) signs used at manually protected crossings; and (3) development of highway crossing protection. Under the last mentioned subject the committee presented diagrams and explanation of a color-light type signal to be used as a pedestrian sidewalk signal instead of a sidewalk gate arm at crossings where gates are used as protection for vehicles approaching the tracks on roadways and these gates or short arms extend over sidewalks at two approaches to the crossing. When this report was presented the chairman explained that numerous changes had been suggested, and, therefore, the report was withdrawn for further consideration by the committee.

ECONOMICS OF SIGNALING

Savings in train time and operating expenses on 11 installations of signaling were each explained in detail in the report presented by the Committee on Economics of Signaling.

On 52.7 mi. of single track on the Pennsylvania, between Tyrone, Pa., and Lock Haven, an installation of centralized traffic control decreased the average road time of freight trains 36 min. eastward and 59 min. westward, and reduced the annual operating expenses $115,110. The annual return on capital investment, over and above 6 per cent interest, is 18.7 per cent.

An installation of flashing-light signals and short-arm gates at nine crossings on the Grand Trunk Western in Detroit, Mich., replaces manually operated gates. Eighteen crossing watchmen positions were eliminated. The savings represent an annual return of 117.6 per cent, over and above 6 per cent interest, on a capital investment of $37,516.

An installation of centralized traffic control on 51 mi. of single track on the Milwaukee, between Laredo, Mo., and Polo saves 17,498 freight train-miles annually, eliminated two sidings and reduced operating expenses $37,300 annually, which is an annual return of 21.5 per cent on capital investment of $173,644, over and above 3 per cent interest charge.

In Taunton, Mass., the New Haven formerly had manually operated gates at four crossings and watchmen at another, this protection being in service 24 hours every day. Automatically controlled flashing-light signals and short-arm gates installed at these crossings are saving $40,763 an-

nually, which is more than 100 per cent on the capital investment of $37,407.

The Lackawanna has installed remotely controlled train-order signals in two-track automatic block territory on 254 mi. between Buffalo, N. Y., and Binghamton. The project includes four power-operated switches with signals, as well as five remotely controlled position-light type train-order signals which function to permit movement of inferior class trains, irrespective of following superior schedules, until an indication to take siding is displayed. Thus, when some superior train is running late, the dispatcher can use these train-order signals to advance an inferior train beyond a point where it would otherwise take siding for the following superior train. The capital investment for this signaling was $78,475 and the net reduction in annual operating expense is about $51,900.

An interlocking installed by the Chicago & Eastern Illinois at crossings with other railroads in Danville, Ill.,

Summary of Actuations of Dragging Equipment Detectors on an Eastern Railroad

Year	Locations protected	Tracks equipped	Actuations	Average actuations per track equipped
1936	4	13	67	5.15
1937	28	63	267	4.23
1938	80	92	686	7.45
1939	97	246	1,004	4.08
1940	123	307	1,108	3.60
1941	135	339	1,275	3.76
1942	149	376	1,794	4.77
1943	157	391	2,620	6.70
1944	210	489	2,976	6.08
1945	233	538	3,755	6.97
1946	255	566	3,484	6.15
1947	259	573	3,542	6.18
1948	283	616	4,627	7.51
Total	283	616	27,205	

Board Finds No Need

Recommends that demand of B. of L.F.-& E. be denied—Also rejects other rules-change proposals of that brotherhood and counterproposals made by the railroads

The emergency board appointed by President Truman to investigate the controversy has recommended denial of demands made by the Brotherhood of Locomotive Firemen and Enginemen for the employment of an additional fireman on all Diesel-electric locomotives operated in road service, and for the assignment of a fireman to the smaller yard Diesels and some of the rail motor cars which are now run by engineers alone. The board's report, submitted to the President on September 19, also recommended denial of other demands involved in the case. These included the brotherhood's proposal that the pay of firemen on electric and oil-burning-steam locomotives be equalized with that of firemen on coal burners, and the railroads' counterproposals for elimination of various provisions of present agreements calling for higher-than-standard wages for firemen assigned to "differential" types of locomotives or runs.

B. of L. E. Demands Also Rejected

Members of the board were the same three individuals who comprised another board that recently made an adverse report on a demand of the Brotherhood of Locomotive Engineers for an additional engineer on Diesel-electric road locomotives (see *Railway Age* of April 16, page 60). They are George W. Taylor, professor of labor relations, Wharton School, University of Pennsylvania, who served as chairman of both boards; Grady Lewis, attorney, of Washington, D. C.; and George E. Osborne, professor of law, Leland Stanford University. The presidential order on the basis of which they were appointed to hear the present case was dated February 15; but proceedings were thereafter suspended pending completion of their work on the B. of L. E. case.

Hearings in the present case did not get under way until June 27; and the deadline for the filing of a report (fixed by the Railway Labor Act at 30 days after appointment of a board) was extended by voluntary agreement of the parties. Another unusual feature of the case was the fact that an emergency board was appointed without any strike vote having been taken; although the executive order creating the board included the usual "whereas" to the effect that "this dispute, in the judgment of the National Mediation Board, threatens substantially to interrupt interstate commerce to a degree such as to deprive the country of essential transportation service."

The report of 240 double-spaced, mimeographed pages identified the demand for an additional fireman on Diesel-electrics operated in road service as "by far the most important" of the issues before the board. Specifically, this demand was for the employment of an additional fireman on road-service Diesels "for each four units or less." In rejecting it, the board emphasized how Dieselization has improved the competitive position of the railroads, putting them in a position to obtain more business and thus provide more jobs. Also, it pointed out that Dieselization has not resulted in the elimination of firemen from road-service engines; so the cost savings which Dieselization has brought "have not been a result of job elimination, which is a common result of technological change."

It was conceded that there may now be fewer firemen jobs than formerly for a given volume of traffic. The board added, however, that such a result "is not

obviates 55,000 train stops annually, which saves $27,500; and the freight train time saved is estimated at $73,730 annually. These and other savings total $112,730 as compared with the capital investment in this project—$54,647.

Each year this committee presents a list explaining the train time saved on various recent installations of signaling on which trains are operated by signal indications rather than by train orders. The 1949 report lists 41 projects totaling 2,150 road miles, with an average of 23 freight trains daily, and an average saving of 1.08 min. per freight train-mile.

Protection provided by dragging equipment detectors was explained in an extended report. One road, which has been installing these detectors in large numbers throughout the past 12 years, now has 616 tracks so equipped. On the average each detector is operated 7.5 times annually by dragging equipment, and trains are stopped by automatically controlled signals so that the defective equipment can be located and removed before causing derailments. A record for 12 years lists 27,205 instances in which these detectors functioned, as shown in the table.

On the average the detectors installed to date cost about $1,265 for each track. At prices effective at the beginning of 1949, the cost had increased to about $2,500 for each track. A total of 616 such installations are now in service on this railroad.

Other extended reports presented by this committee include: Ten advantages of eliminating flagging in C.T.C. territory; tabulations of taxes applying per mile of track on all principal railroads; average wages of enginemen, firemen, conductors and brakemen on freight trains; lists of number of grade crossings protected by gates, watchmen and signals; advantages and savings effected by rock-slide fences; and economics of yard-track indicators; "off track" equipment; and precast concrete signal foundations, cases and housings.

for Extra Fireman on Diesels

peculiar to Dieselization," as it has "long been a concomitant of the steady development of more powerful and more effective steam locomotives." Moreover, the board continued, total job opportunities are not determined by the number of men employed to handle a given volume of traffic.

"Total job opportunities," the report continued, "depend, more than anything else, upon the total volume of traffic the railroads are called upon to carry. In giving the railroads a means of securing economies necessary for any improvement of their competitive position, Dieselization served to increase the total volume of traffic to be handled and thus tended to preserve jobs and maybe to create new ones.

"One of the most notable aspects of the change brought about by the Diesel-electric locomotive is that the great technological advance it represents was made without eliminating any of the jobs of the locomotive operating crew. The jobs were, in many ways, made more desirable. At the same time the advantages of Diesel operation were sufficiently great to improve the railroads' competitive position and thus provide a basis for maintaining total traffic upon which total job opportunities are determined. The lasting significance of the 1937 National Diesel Agreement, made at the very start of the so-called Diesel revolution, is in its assurance that the job of fireman would not be eliminated on Diesel-electric locomotives."

Meanwhile, the report had opened its comprehensive discussions of this "Diesel manpower question" by analyzing the B. of L. F. & E. demand as one based on contentions that safe and efficient operation of Diesels in road service required the presence of a fireman in the cab "at all times," and the employment of an additional fireman "to give necessary attention to the engine room machinery." In addition to the "safety and efficiency" arguments, the brotherhood's case was based also on a contention that existing agreements with respect to times when the fireman is permitted to leave the cab are being violated.

These agreements were negotiated after issuance of the report of the emergency board which heard the so-called 1943 Diesel case. That board recommended that a fireman be in the cab with the engineer on high-speed main-line passenger trains at all times when such trains are in motion; and that if this required an extra man on the locomotive, he should be taken from the ranks of the firemen (see *Railway Age* of May 29, 1943, page 1092).

The present board determined that its basic approach should be an undertaking to appraise the brotherhood's demand on its "intrinsic merits." The board's announcement of that determination included reference to evidence offered by brotherhood spokesmen who "made it clear that they were seeking no make-work or no so-called featherbedding arrangement." "They did not claim," the report continued, "that a 'fireman should be placed on a locomotive if his services were not actually needed.' The brotherhood case thus depends, in the last analysis, upon whether or not there are actually two jobs that must be filled by firemen if Diesel-electric locomotives are to be safely and efficiently operated."

The board thought it "significant to note" that no claim had been made for an additional fireman on any types of locomotives other than Diesels. As to the brotherhood's explanation that the duties of Diesel firemen are divided as to place of performance be-

tween the cab and the engine room, the board observed that service on straight electric locomotives involves a like division. "No claim has been made in this proceeding that the absence of the fireman (helper) from the cab on straight electrics constitutes an unsafe method of operation," the report continued. "Actually, in pressing its claim for elimination of the electric differential, which is another issue in this proceeding, the brotherhood has sought to emphasize the amount of work which must be done by the fireman (helper) in the motor room on these types of locomotives."

Along the same line, the board said later on that, in pressing the claim for an additional fireman, the brotherhood "sets a watching standard for road Diesels greater than for any other type of locomotive, despite the fact that visibility from the cab is far superior on Diesels to any other type of locomotive." Available accident statistics were interpreted as indicating that "the safety record of Diesels is notably better than that of steam locomotives." It was also pointed out that most Diesels are equipped with "dead-man" controls; that the substitution of automatic controls for hand controls and installations of control devices in the cab have minimized the time firemen are required to spend in engine rooms; and that "the manner of operating Diesels to achieve maximum efficiency and safety is still being developed." The engine-room work of the fireman was described by the board as "neither complex nor difficult," being "mainly" the making of "routine patrols."

Coming to its detailed consideration of the brotherhood's claim of contract violation, the board discussed first allegations to the effect that the railroads are using maintainers, Diesel instructors, supervisory employees or others to do firemen's work in the engine room. The brotherhood insisted that in raising this issue it was not seeking to prevent the employment of the maintainers, instructors, and supervisors; but it was seeking to prevent their doing the work "customarily done by firemen." Noting that the brotherhood has "insisted upon" leaving the meaning of that phrase "undefined," the board found no reason why it should supply a definition and thus get into a matter of contract interpretation which is the function of the National Railroad Adjustment Board. Even if the alleged violations occur, they do not provide any reason for compelling the railroads to employ an additional fireman, it said.

The report's detailed consideration of the "safety and efficiency" arguments of the brotherhood included further review of accident statistics—an analysis which, the board said, "cannot possibly support a conclusion that the present operating and watching rules applicable to Diesels are woefully defective." The fireman was found to have been absent from the cab in only a "few" of the accidents reviewed; and in those cases "it is possible, though not at all certain, that a fireman might have been able to take steps to avert the accidents," the board observed.

"Without in any way minimizing the importance of averting every avoidable accident," it continued, "it can properly be said that the accident reports and records submitted to us show that Diesel operations have been notably and comparatively safe operations. . . . One may be excused for pondering the question as to why, in an effort to create greater safety, Diesels have been singled out for such concentrated attention, including the establishment of such a far-reaching proposition as is involved here. There is something of a gap between the problem and the proposed remedy."

As to the brotherhood's contention that the meeting of its demands would be in the interest of the "general public," the report noted that the public has the I.C.C. and other government agencies to represent its interest. The board conceded that safety standards would be "very slightly" increased for the general public by adoption of the brotherhood proposal; but it pointed out that there "would be a vast gain for the B. of L. F. & E.—an increase of nearly 100 per cent in Diesel jobs for its membership."

"Such an approach to the solution of safety problems would mean—and not theoretically—that there would be virtually no limit to the manpower demands that could be made and that would have to be approved," the report continued. "The basic rule would be: If added manpower can be said to even remotely increase safety, such manpower should be provided, regardless of cost. The consequences are too obviously unreasonable to require a discussion. Can there be any reasonable doubt that careful attention to alternate ways of increasing safety—and possibly more effective ways—should be given before adding additional manpower extensively in order slightly to increase safety?"

Management's Responsibility

In its discussion of the "economy and efficiency" phases of the case, the board noted that the carriers had not only expressed their belief that the employment of a second fireman would be "quite uneconomical," but had also registered their "unalterable opposition to the concept that questions of this sort are proper subjects for collective bargaining." And while it said that any finding by the board on the matter would be "wholly inappropriate," the report did make this comment: "There is cogency to the carriers' argument about the limit to matters that can properly be dealt with collectively, since management is held solely and entirely responsible for the results of certain decisions. Even more broadly, management has its own job to fill and its own functions to perform in our system of production."

Meanwhile, the board had found that work in the engine room comprises "considerably less than a full-time job—and, it has, moreover, tended to decrease both in volume and complexity with the more extensive use of Diesels." Also, it found that "by no stretch of the imagination" could applicable precedents be interpreted as showing that the fireman has an "exclusive right" to perform the engine-room work; and that the present division of the fireman's work between the cab and the engine room "does not constitute a difficult assignment." Its findings as to "efficiency and economy" were summed up as follows: "The evidence leaves us with no conviction that the employment of an additional fireman would result in either lowered cost of operation of road Diesels or in any significant offset to the cost of employing an extra fireman. It is quite obvious that such manning of these locomotives would substantially increase the total costs of operation."

Having thus disposed of the "general request," the board proceeded to consider whether existing operating rules as to freight or passenger service should be changed. It found such rules adequate, noting as to road freight service that the head brakeman usually rides in the Diesel cab, and is there performing lookout duty while the fireman is in the engine room. The B. of L. F. and E. insisted that the presence of the head brakeman did not satisfy the "requirements of safety," but the board was "convinced that it does."

Present Rule Too Restrictive

As to road passenger service, the board considered allegations of violations of the present watching rule which requires the fireman to be in the cab of high-speed, main-line trains at all times when such trains are in motion. It found that the carriers are acting in "good faith" on the matter, having taken "firm steps to secure full compliance." Reference was made to the carriers' view that the rule is "unnecessarily restrictive and inflexible," and to testimony of carrier witnesses who said that the enginemen think so, too. On this matter, the board found evidence indicating "the possibility, for exploration in negotiations, that a relaxing modification of the present watching rule might eliminate the violation problem complained of without any sacrifice of safety."

At the same time, it concluded that safety would not be promoted by an extension of the present watching rule so that the fireman would be required to remain in the cab while the train is standing. Also, it found that no additional hazard was added by that requirement of the rule which calls for an unscheduled stop if it is found necessary for the fireman to do engine-room work while the train is en route. Evidence before the board included results of a study made by one road which indicated that unscheduled stops of the kind at issue occurred on the average of one in every 545 trips. Accident statistics revealed "no rear-end collisions as a result of the stopping rule," the report also said. In its subsequent discussion of economy and efficiency of passenger operations, it made this comment:

"In dealing with this subject we do not overlook the carriers' contentions that questions of judgment as to what constitutes economical methods of operation are not proper matters for collective bargaining. The significance of this contention to these proceedings has already been developed and need not be repeated here. It is to be noted, however, that under present rules and practices, the operation of high-speed passenger trains has been marked by a highly efficient performance. Data submitted by the carriers as respects the good on-schedule performance of these trains . . . make it apparent that the carriers have come to no unreasonable conclusion in deciding that the employment of an additional fireman would increase costs of operation rather than decrease such costs."

The board then proceeded to reject the extra-man demand as it would have applied to other Diesel-propelled streamlined passenger trains, i.e., those hauled by single-unit Diesels. In doing so it cited the "outstanding" performance of one such Diesel which "traveled just short of five million miles, doing more than 800 miles per day at a rate of more than 60 m.p.h. without a single delay caused by mechanical trouble." The report added that this is "a longer continuous performance than any other land operated machine." And the board found itself forced to conclude that "constant, or even frequent, patrolling of the engine rooms is not needed." Likewise, it found that there was "no justification" for an additional fireman of Diesels operated in "conventional passenger services," while the demand as it related to multiple-unit, hooded type engines was also found to have "no merit."

The board then proceeded to its rejection of the demand for assignment of a fireman to yard Diesels weighing less than 90,000 lb. on the drivers. On this issue it was "convinced" that there were "no good safety reasons" to support the demand, and that any possible increase in efficiency would be insufficient to justify the additional cost. The report said that "there is absolutely nothing else for a fireman to do on these small switchers except to act as a lookout and to relay signals"; but in actual operations "safety depends entirely upon that member of the ground crew who is acting as lookout at the front of the cut of cars."

Rail Motor Cars and Differentials

The rail-motor-car demand also called generally for elimination of the exception which permits operation of such cars without a fireman if they weigh less than 90,000 lb. This general proposition, however, was subject to exceptions which would have permitted the cars to continue operating without a fireman if they handled no other cars, and if they had not been made more powerful since March 15, 1937. The present agreement covering the manning of these cars was made in 1937, and the board found there had been no showing of changed conditions on the basis of which it would be justified in recommending that the agreement be altered. Moreover, it said that rail motor cars "have been operated successfully without a fireman since their first use in 1905," and that "there never has been anything on these motor cars for a fireman to do that cannot be and is not done by the engineer."

The board "examined and appraised" the electric-fireman differential on the basis of its history and the evidence presented by the brotherhood in support of its demand for the differential's elimination. "No cogent nor persuasive reason for recommending a change" was found. The board's adverse finding on the demand for elimination of the differential on oil-burning steam locomotives was summarized in the report as follows: "We find no significant change in the industry, with respect to the oil differential, occurring since 1943, when the subject was fully considered, that indicates its abolishment. It is recommended that the claim for such be withdrawn."

Other demands, also rejected by the board as noted at the outset, included carrier proposals to eliminate various provisions of present agreements calling for higher-than-standard wages. These proposals related to mountain and desert differentials; the 24-in. cylinder differential; miscellaneous western rates; and miscellaneous southeastern rates.

R. E. Woodruff
P. W. Johnston

R. E. Woodruff

P. W. Johnston

Americans should continue to learn all they can about what is going on in England because it is a horrible example of what can happen to a country when political forces attempt to do the planning for the nation," says Robert E. Woodruff, who will retire from active service as president of the Erie and become chairman of the board of directors on October 1. Mr. Woodruff will be succeeded as president by Paul W. Johnston, who has been executive vice-president since October 1, 1948.

Mr. Woodruff, who speaks as a philosopher discussing principles and not only as a spokesman for the railroad industry, added that nothing else the railroads can do to avert socialization is as important as publicizing everything possible about all phases of life in socialist England. He is firmly convinced that railroads in the United States should concentrate their attacks on the *principle* of socialism, because if men representing an industry describe only the dangers of government encroachment upon their particular segment of the economy there is extreme danger of such warnings being regarded as special, selfish pleading.

Proud of Role as Businessman

Proud of being an American *businessman*, Mr. Woodruff says he is concerned, as every businessman should be, with the future course of the American economy. He minces no words about his belief in the durability of the American free enterprise system and its capacity to give ever larger numbers of people more and more of the things that make life enjoyable. Believing in America and its future as he does, this businessman, who rose from railroad track laborer to head one of the country's largest industrial enterprises, says it is imperative that *everybody* gets involved in the struggle to maintain American traditions and practices.

"Let's make America a constantly better place in which to live," he says. "Socialism starts with promises and the promises are never made good. Our system isn't perfect. There have been abuses by all parts of it. Nevertheless, while huge fortunes have been made they have largely been invested in going enterprises that provide employment for thousands of men. The middle class is certainly much better off in this country with its automobiles and radios and savings accounts and houses. Even the so-called lower classes are better off by far than in any other country. There is practically no limit to where we can go by continuation of our policy of constantly improving the status of all people. But the people must be given the *facts* about our economic system so they will understand how it operates and what makes it tick."

Robert Eastman Woodruff was born on a farm near Green Bay, Wis., on September 11, 1884, and his career is typical of the success stories that have given this country fame as the land of opportunity. After graduation from the Benton Harbor, Mich., high school in 1901, the future Erie executive entered Purdue University from which he was graduated four years later with a degree in civil engineering. He entered railroad service on June 10, 1905, as a track laborer with the Erie, the company which has been his employer ever since. In rapid succession he was a foreman, transitman and an inspector until, on June 1, 1906, he was appointed assistant division engineer on the Mahoning division. He was division engineer on the Meadville division from December 1, 1906, to November, 1908, when he was made trainmaster on the Cincinnati division. Subsequently he was general agent at the Chicago Terminal, superintendent of the Rochester, Kent and Mahoning divisions, superintendent and then general superintendent of lines west of Salamanca, N. Y., regional manager of the Hornell region, superintendent of the Buffalo division and general manager of the Eastern district.

On December 1, 1928, Mr. Woodruff was elected assistant vice-president, system. He held this position until his election as vice-president in charge of operations and maintenance on May 28, 1929. Slightly over ten years later he was named trustee and chief executive officer, serving in those capacities during the last two years of the reorganization of the Erie's capital structure, which was completed in what has been called the record-breaking time of four years. Mr. Woodruff has been president since October 22, 1941, when the present Erie Railroad Company, released from financial burdens, emerged from reorganization. He is retiring as president in accordance with the road's 65-year retirement rule which he helped inaugurate. In establishing the rule, Mr. Woodruff maintained that younger men should have the responsibility for running the railroad and that more rapid advancement all along the line should be provided.

Rising through the ranks Mr. Woodruff made good use of his ample opportunity to study the operating, personnel and management problems which face the railroads. In 1925, when he was division superinten-

Becomes Erie Chairman October 1; Will Be New President

dent at Buffalo, N. Y., he assembled his observations in a book called "The Making of a Railroad Officer," in which he stressed the value of human relations and the ability to get along with people by gaining their confidence. His own popularity among shippers and people outside the railroad, as well as with Erie employees, demonstrates how well he has applied the lessons learned during his climb to the top.

In his many years of travel back and forth over the Erie's 2,229 miles of railroad Mr. Woodruff has developed a minutely detailed knowledge of all phases of the road's widespread operations. As president for the past several years he brought the Erie to the forefront as one of the most progressive railroads in the east. He quickly recognized the efficiency and economy of Diesel-electric locomotives and embarked the railroad upon an extensive program for changing over to this type of motive power. Today, the Erie's $30,000,000 fleet of Diesels haul all of its through-line passenger trains and 78 per cent of its main-line freight tonnage. When branch-line freight movements are included, the percentage of freight tonnage hauled by Diesels is still an extremely high 63 per cent. On September 16 the Erie owned 132 Diesel locomotives comprising 212 units and when current Diesel deliveries are completed the road will own 183 Diesel locomotives consisting of 266 units.

Mr. Johnston's Career

Mr. Johnston, the twenty-fourth man to serve as president of the 117-year-old Erie, was born on July 5, 1892, in the little Pennsylvania town of Transfer, where his father, who worked for the Erie for 45 years, was station agent. A man who likes what he calls the "enormous variety of work and people in railroading," Mr. Johnston is proud of the fact that his older son, Paul, Jr., now commercial agent for the Erie at Rochester, N. Y., is the third generation of Johnstons to be represented on the railroad. Mr. Johnston's railroad career—all of which, like Mr. Woodruff's, has been spent with the Erie—began when he was employed as a yard clerk at Shenango, Pa., during summer vacation from school. His starting salary was $45 a month.

Shortly after graduating from Allegheny College he became a regular employee of the Erie as a relief agent at Greenville, Pa., in 1918. Successive promotions moved him on to station supervisor, rules examiner, chief clerk, trainmaster, superintendent of transportation, assistant general manager, assistant to the vice-president, general manager, assistant vice-president, vice-president in charge of personnel and executive vice-president.

During the last war he served on the staff of General Douglas MacArthur in the south Pacific for 3½ years. His military experience, he says, began in February, 1942—two months after the Japanese attack on Pearl Harbor—with a request that he select a group of American railroad men who, in collaboration with men from the fields of air and water transportation, would take charge of the Australian transportation system if that country were invaded by the enemy. When, after a while, it appeared that the enemy had been dissuaded from such a notion, he was named chairman of the General Purchasing Commission, which had the assigned task of procuring supplies for all the military services in Australia. He represented General MacArthur on the Allied Supply Council and at the United Nations Relief and Rehabilitation conference.

Although negotiations for the purchase of supplies were placed on a centralized basis, Mr. Johnston says the magnitude of the task of transporting the supplies was increased by the fact that Australian railroads have no uniform gage. Railroads there have four principal gages and when goods were transported from one end of the country to another entire changes of lading from one set of cars to another were involved.

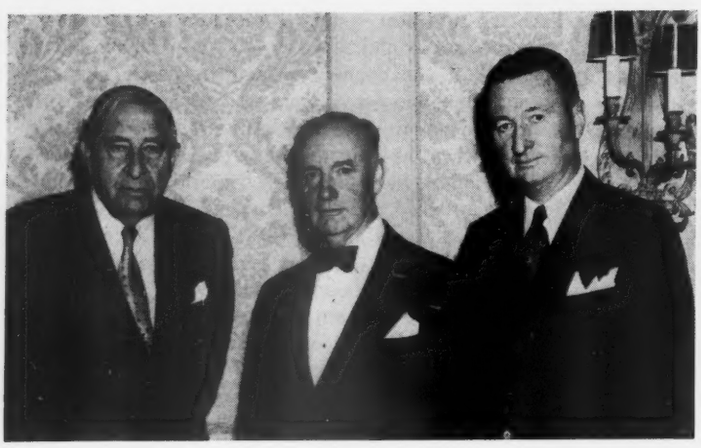
Mr. Johnston, who had been assigned the rank of colonel when he entered the army, was discharged in August, 1945, as a brigadier general. He subsequently was awarded the Distinguished Service Medal.

One of the major problems facing American railroads is that of widening the gap between income and outgo. Railroad income, of course, depends primarily upon the amount of traffic and the rates the carriers can charge for moving it. Because of the relative inflexibility of railroad rates, along with the ponderous government machinery which must be set in motion if rate increases are to be authorized, Mr. Johnston sees the main source of railroad health in the well-being of the country's entire economy, from which railroad traffic springs. In addition, he says, railroads, in their quest for the profits necessary to maintain and expand their plant to the point where it gives continually improving service to the public, must devote more attention to mechanization.

Costs must be reduced, Mr. Johnston emphasizes, and this means more efficiency all down the line. Mechanical aids must be introduced to reduce the expensive use of time now involved in, among other things, paperwork. Increased installation of Diesel motive power will help to cut costs, but, he warns, the greatest savings accruing from the use of Diesel-electric locomotives already have been realized. The first Diesels purchased by railroads were rushed into service in the places where they could do the most good and produce the greatest return and the introduction of each succeeding Diesel will bring a constantly decreasing margin of benefit.

Railroads Receive Harriman Safety Awards

Left—James G. Lyne (left), editor of *Railway Age* and president of the Simmons-Boardman Publishing Corporation, who succeeds Robert V. Fletcher, special counsel, Association of American Railroads, as chairman of the award committee of the American Museum of Safety; Col. John Stilwell (center), member, board of trustees, National Safety Council; and R. C. White, vice-president, Missouri-Illinois. Below left—In the usual order: Judge Fletcher; Richard F. Mitchell, member, Interstate Commerce Commission, and principal speaker at the dinner; Wallace J. Falvey, president of the American Museum of Safety. Below right—Judge Fletcher (left), accepting from Mr. Falvey a certificate expressing appreciation for the "contributions to safety in travel and railroad employment upon the occasion of [the Judge's] retirement as chairman, committee of award"



I want to be on record as violently opposing government ownership of railroads," Interstate Commerce Commissioner Richard F. Mitchell said on September 14 at the Harriman Award dinner of the American Museum of Safety held in the Hotel Ambassador, New York. Wallace Falvey, president of the museum, presided at the dinner. "During the first war it cost the American people under government operation a little more than $2,000,000 a day to run the railroads," Mr. Mitchell continued. "During World War II the railroads were operated under private ownership and everyone from the President of the United States down paid a glowing tribute to the magnificent job the railroads did. Not only did they do a marvelous job, but instead of having to pay out $2,000,000 a day to operate the railroads, the American people received from the railroads, by way of taxes, $2,500,000 a day. The difference between government operation and private operation was about $4,500,000 a day in favor of private operation."

For the best safety record in 1948 among the larger railroads of the country (those operating more than 10,000,000 locomotive-miles annually), a gold medal was given to the Chicago, Burlington & Quincy. H. C. Murphy, president of the road, accepted the award, which was presented by Robert V. Fletcher, special counsel, Association of American Railroads, and chairman of the award committee of the museum. Mr. Murphy, in accepting the gold medal, recalled that the Burlington had received a safety award in 1934 and that he, in his capacity then as the Burlington's superintendent of safety, had been in New York to receive that award. The gold medal for the best safety record among class B railroads (those operating less

CAPTIONS READ CLOCKWISE

Judge Fletcher (left), congratulating Paul H. Van Hoven, president of the Duluth, Missabe & Iron Range, which was awarded one of three gold medals

A. E. Davis (right), superintendent of safety, Chicago, Burlington & Quincy, looks on as Judge Fletcher presents to H. C. Murphy (center), president, a certificate attesting to the award of a gold medal to the Burlington

In the usual order: J. R. Thexton, superintendent of safety, Delaware, Lackawanna & Western, which received a certificate of commendation; Judge Fletcher; P. M. Shoemaker, D. L. & W. vice-president; Mr. Falvey

Ernest E. Norris (right), president of the Southern, accepting from Judge Fletcher the certificate of commendation won by that road

Guy C. Hecker (left), chairman of the Arthur Williams award committee, and Gerald O'Connell, director of training of Northwestern University's Traffic Institute

T. M. Spence (right), accepting from Judge Fletcher (left), the certificate of commendation won by the Texas & New Orleans, of which Mr. Spence is general manager, as J. G. Walsh (center), vice-president, finance, of the Southern Pacific, parent of the T. & N. O., looks on

than 10,000,000 locomotive-miles, but more than 1,000,000), was awarded to the Duluth, Missabe & Iron Range. The award was accepted from Judge Fletcher by Paul H. Van Hoven, D.M. & I.R. president. The Missouri-Illinois received a gold medal for the best safety record among class C railroads (those operating less than 1,000,000 locomotive-miles annually). R. C. White, vice-president of the road, accepted the award.

For outstanding safety performances, certificates of commendation were awarded to the following railroads: Eastern District—Delaware, Lackawanna & Western (class A), accepted by P. M. Shoemaker, vice-president; Detroit, Toledo & Ironton (class B), accepted by S. P. Ruddiman, president; Cambria & Indiana (class C), accepted by J. B. Fleming, secretary-treasurer; Western District—Texas & New Orleans (class A), accepted by T. M. Spence, general manager; St. Louis Southwestern (class B), accepted by L. E. Hoffman, superintendent of rules and safety; Utah (class C), accepted by L. A. Kane, president; Southern District—Southern (class A), accepted by Ernest E. Norris, president; Charleston & Western Carolina (class B), accepted by C. McD. Davis, president; Mississippi Central (class C), accepted by Harry H. Goble, commercial agent.

A personal safety award — the Arthur Williams Memorial Medal—was given to Franklin M. Kreml, director of the Northwestern University Traffic Institute. The medal, presented by Guy C. Hecker, chairman of the Arthur Williams award committee, was accepted for Mr. Kreml by Gerald O'Connell, the institute's director of training.

Judge Fletcher, after the awards had been presented, announced his retirement as chairman of the award committee, a position he has occupied since 1941. His successor will be James G. Lyne, editor of *Railway Age* and president of the Simmons-Boardman Publishing Corporation.

Mr. Mitchell, principal speaker at the dinner, said "it is unfortunate that the American people have no real knowledge of the difficulties confronting the railroads. . . . Thirty years ago the railroads of the nation had little competition in the transportation field. Today the picture is different. The airplane now carries large numbers of passengers. Buses are carrying passengers on almost every highway and lane. Trucks are hauling freight of every kind and description. A few days ago I was talking to a packer in the middle west and he told me how he was trucking fresh meat 560 miles at a rate of 52 cents for 100 lb. and the trucker furnishing refrigeration. A manufacturer of paints told me how they could transport truckloads of paint from one city to the other, and if you travel along the highways you see trucks loaded with everything from livestock to heavy steel articles weighing thousands of pounds.

"In addition there is the privately owned automobile. In July there were 579,048 new automobiles manufactured and sold. For the first seven months of 1949 the factory sales were 3,573,322 units, and by the end of 1949 it is estimated there will be 43,500,000 motor vehicles in use in the United States. Motor travel is breaking all records this year and should reach 425,000,000.000 vehicle-miles. This would be about 25,000.000,000 above 1948. This, in part, is the competition that the railroads are confronted with. And the question is: Can the railroads of the nation compete with these new methods of transportation? Actually, the real question is: Can the railroads of the nation remain privately owned and meet the competition that now confronts them?

"In the railroad industry," Mr. Mitchell went on, "there are no special places to secure money to make easy profits, to take up losses in some one department, such as the passenger service. Every single dollar that the railroads lose on one service must come out of the pockets of the shippers in another service. Is it fair that the farmers and industrial shippers should be forced to subsidize the passenger service to the extent of almost $600,000,000? But that is exactly what must be done unless there is some way to eliminate the passenger service loss.

"Evidence seems sufficient to establish the fact that the fundamental and underlying factor in the railroad passenger deficit is highway competition, represented chiefly by the private automobile," the commissioner continued. "To this, of course, must be added the increasing competition of the air carriers. Except on the assumption of some extraordinary event, such as a war, it is difficult to avoid the conclusion that privately owned automobiles and buses and probably the air lines will continue to carry an increasing proportion of the total passenger traffic and that further decline of railroad passenger traffic is highly probable, if not more or less inevitable. Reduction in passenger fares and cost of operation which would check or even seriously retard this trend appear at present to be unlikely. . . . Can there be any question but that there is occurring a change in the mode of transportation when we think of the fact that in the last year the number of passengers carried on the railroads declined over 29 per cent and the passenger-miles by almost 57 per cent. Looking at the trains running we find there was a decrease of only 14 per cent in passenger train-miles.

"In other words," said Mr. Mitchell, "it might be possible to eliminate a high proportion of all of the present deficit trains without any real impairment of the public interest in adequate passenger transportation. Obviously, however, this will involve a thorough analysis by the I.C.C. of the whole public interest concept as applied to passenger service. I, personally, have urged upon the commission a complete study of the passenger service. . . . It may be that the railroads can recapture part of the passenger traffic by the operation of well-equipped reserved-seat trains, many of which already are in operation. Another item which is costing the railroads a great deal of passenger traffic is the present tax. The tax on a first class ticket with Pullman from Los Angeles to Washington, D. C., and return is $34, and you may rest assured a good many Americans hesitate to make that trip and pay the $34 in tax. As I see it, the future of the railroads depends to a great extent upon their ability to reduce the passenger service deficit. The railroads must acknowledge the fact that there has been a change in the mode of transportation and they must compete on the new basis and not the old, for no longer can the freight shippers of the country subsidize the passenger service to the extent of $560,000,000 a year."

GENERAL NEWS

Producers and Railways Air Crosstie Problems

Hear many addresses and reports at Memphis meeting

With an eye to the problems of both producers and users, the Railway Tie Association held its thirty-first annual convention at the Hotel Peabody, Memphis, Tenn., September 12-14; approximately 350 registered their attendance, including 80 railroad men from all parts of the country. Features of the three-day program of particular interest to the railroads included addresses by Graham E. Getty, statistician, Association of American Railroads, on the Economic Outlook for the Next Twelve Months in Terms of Crosstie Demands; by Robert N. Hoskins, industrial forester, Seaboard Air Line, on Forestry Practices on One Railroad; by W. J. Hedley, assistant chief engineer, Wabash Railway, on Crosstie Problems of the Engineer, and by B. N. Johnson, Koppers Company, on the Problem of Peaks and Valleys in Tie Production. Committee reports of special interest to users included those on checking and splitting of crossties, mechanical handling of crossties, timber conservation, and tie specifications. All sessions of the convention were presided over by T. H. Wagner, Gross & Janes Co., St. Louis, Mo.

In the election of officers, Elmo W. Jones, T. J. Moss Tie Company, St. Louis, was advanced from first vice-president to president; Walter P. Arnold, Wood Preserving Division, Koppers Company, Pittsburgh, Pa., was advanced from second vice-president to first vice-president; J. R. Keig, Kirby Lumber Company, Beaumont, Tex., was elected second vice-president, and Roy M. Edmonds was reelected secretary-treasurer.

Tie Outlook Appraised

To appraise properly the economic outlook for the next 12 months in terms of crosstie demands, Mr. Getty first analyzed the economic outlook of the country as a whole, and then of the railways as the principal consumer of ties. He said that indications lead to the general conclusion that at best during the next 12 months railway traffic volume will be maintained close to current levels, with the probability that the volume will be further reduced if new inflationary influences are introduced into the national economy at this time.

From this background, Mr. Getty discussed the outlook for crosstie purchases during 1949, and came to the conclusion that no marked change from the level of tie replacements in 1948 seems likely—a year which saw the railroads install fewer ties in replacements than in any year on record—fewer even than at the bottom of the depression in 1932 and 1933. However, he pointed out that there must be a continuing flow of new ties to the railways, and, therefore, that it can be expected that as soon as railroad prospects brighten, the crosstie market will be among the first to feel the beneficial effects.

Seaboard Forestry Division

In his address, Mr. Hoskins discussed the importance of forestry and forest products to the Seaboard, and the accomplishments of the Forestry division of his road, which was established in 1937. Since 1945, he said, the Seaboard has emphasized a program of training for farm youth, which has given it a close tie-in with the various vocational agricultural departments of the southeast. It has also worked closely with the Federal Forestry Administration in its territory, and each year has awarded scholarships, bonds and all-expense trips to forestry training camps, to vocational agricultural students for individual achievements on their home farm woodlots. Other features of the Seaboard's cooperative program, according to Mr. Hoskins, include sponsoring individual forestry projects; inspection trips; class and field work with forestry students; the presentation of forestry demonstrations; the publication of a quarterly forestry bulletin, with a present circulation of 13,000; active participation in the activities of many forestry committees and groups, and acceptance of numerous speaking engagements.

In his paper on The Crosstie Problems of the Engineer, Mr. Hedley commended the tie producers on their part over the years in reducing annual tie renewals on the railroads, and in cooperating with the railroads and the Committee on Ties of the American Railway Engineering Association, but he warned that railway engineers are still not completely satisfied with the wood crosstie as it is today and are determined to improve it further in the interest of reducing maintenance-of-way costs.

Indicating the progress that has already been made in prolonging the life of ties, Mr. Hedley pointed out that, whereas his road laid 1,228,639 ties in replacements in 1920, this number, through treatment with zinc chloride beginning in 1920, and with creosote since 1925, had been reduced to 304,456 in 1948. But he sees still further improvement in the service life of ties possible through continuing improvement in methods of handling, seasoning and treating ties; continuing improvement in

For outstanding achievement in employee safety in 1948 the Southern System has received, for the second consecutive year, the National Safety Council's Award of Honor for Distinguished Service to Safety. The award entitles the railroad to add a "safety star" to the council's "Green Cross for Safety" flag displayed on Southern property in 13 states as a result of the previous award. Shown above, left to right, are C. M. Kimball, assistant to vice-president (safety), of the Southern System; Ned H. Dearborn, president of the N. S. C., who presented the award; Ernest E. Norris, president of the Southern, who received it, and Harry A. DeButts, Southern vice-president (operations)

unloading, distribution and application; better selection of timber to cut, and material reduction in splitting and mechanical wear. He called upon the tie producers for continued cooperation to the end that this further improvement in service life will be realized.

Checking and Splitting Studied

In its report, the Committee on Checking and Splitting of Crossties discussed the causes of checking and splitting during seasoning and in use; described briefly the purpose and character of surface coatings of ties; reported that those of the committee who have witnessed end coating experiments are not impressed and feel that the materials and methods that have been employed to date are neither practical nor economical; said that there is much difference of opinion as to the value of anti-checking irons, dowels, bands, bolts and other mechanical means to prevent checking and splitting, and expressed the opinion that present experiments in the use of tie pads and tie plates fastened securely to the tie, independent of the rail fastening, may lead to some interesting conclusions. After discussing briefly the vapor-drying process, the committee said that those of its members who have examined vapor-dried oak ties which have been in service for five years, and have compared these ties with similar air-seasoned ties in service for the same period, were much impressed with the superior condition of the vapor-dried ties, which were virtually free of objectionable surface checks.

Stimulated by a continuing shortage of tie handlers and labor problems in the tie-producing industry, the Committee on Mechanical Handling of Ties said that there was a continuing stronger tendency toward mechanical tie handling in the field. During 1949 it found many more mechanical units being put into service, all of which, it said, either reduce the number of loaders necessary or eliminate them altogether. The report commented on a variety of tie-handling equipment now in use, but said that, of all the mechanical handling units, it believed the one that has become most popular during the past year is the simple A-frame truck equipped with a winch.

Seek More Stable Tie Purchases

In a comprehensive paper on The Problem of Peaks and Valleys in Tie Production, Mr. Johnson said that a more stable buying program on the part of the railways would be advantageous to all concerned, with less variation in costs and selling prices. There would tend to be a sufficient supply of ties in the hands of the producer at all times to permit regular movement to treating plants from month to month and the maintenance of railroad inventories at satisfactory levels. Such a situation, he continued, would permit the individual railroad to purchase the kinds of ties and the species of wood it most desired, and to have normally on hand sufficient stock that had gone through a normal seasoning period. Further, to the railroads, he said, it would reduce the fluctuation in the size of the inspection force required, and would allow them to distribute their renewal costs more evenly so that the tie account would not have to bear a disproportionate amount of expense in any one period. These factors, combined with the advantages of more stable operations of the tie producers, would, according to Mr. Johnson, operate toward lower average treated tie costs for the railroads.

Kettering Optimistic About Fuel Supply

Addresses the Coordinated Mechanical Associations

With a total first-day registration of approximately 2,100 railroad men, supply representatives and guests, the Coordinated Mechanical Associations — Air Brake, Car Department Officers', Locomotive Maintenance Officers', Master Boiler Makers and Railway Fuel and Traveling Engineers' Associations —opened their 1949 annual meetings at the Hotel Sherman in Chicago with a joint session of all members and guests on September 19.

The meeting was presided over by A. K. Galloway, general superintendent motive power and equipment of the Baltimore & Ohio, who is chairman of the Coordinated Associations. The principal speakers at this joint session were Charles F. Kettering, retired vice-president of General Motors Corporation, who was introduced by C. R. Osborn, general manager of the Electro-Motive Division of General Motors, and Edward H. Davidson, director of the Bureau of Locomotive Inspection, Interstate Commerce Commission, who was introduced by John M. Hall, retired director of the bureau. J. E. Goodwin, vice-president and executive assistant to the president of the Chicago & North Western, spoke briefly on the work of the associations and the opportunity that railroad association members have under present conditions to contribute to substantial economies in operating expenses by developing the ways and means to eliminate the time-and-a-half that is now being paid on many jobs.

Mr. Kettering expressed the opinion that industry has not done too good a job in getting across to the public that great organizations like the railway industry don't "get their stuff" by just pressing a button. They have been accepted as being there for so long that "we have lost the economic significance of what the railroads have done for the country," he said. "We have lost the significance of the first transcontinental railroad; they tied together a political situation which determined the entire future, at that time, of our United States." Someone, he said ought to write a story that would look backward on the American railroads, as to what they have meant to this country in bringing it up to the present time. When people in the business write these things, he added, they are written from the inside, and the writers know so much about it that they leave out what they think everybody knows, and which few people outside the industry really appreciate.

Future Fuel Possibilities

Mr. Kettering raised the question of fuel for internal combustion engines and said that the idea is brought forward periodically that the nation is just on the verge of running out of fuel. First, he declared, we have to try to find out what we mean by fuel. He showed charts of the production of power and the amounts of fuel consumed by the various types of power users, such as manufacturing, automobiles and railroads, and finally charts of the estimated reserves. He discussed briefly the development of the procurement of oil from shale and indicating the future possibilities mentioned the research work of the Bureau of Mines at Rifle, Colo., where in one location "there is enough fuel to equal six times the amount we have used in the 90 years that we have been using oil. I'm giving you that because sometimes I think we begin to worry too much, and to introduce into our calculations factors which are unessential."

As an indication of the possibilities

"We Had Better Begin To Make Up Our Minds"

"The time has passed when a railroad has 'privileges' which impose a 'duty' to the public to provide service which is operated at a loss.

"The railroad industry today is the most regulated, both by national and state regulations, of all the so-called public service corporations. Surrounded on all sides by other forms of competitive transportation which are much less regulated, and the majority of which are subsidized in some form or other from the public purse, the railroads are having a hard time to preserve themselves as the bulwark of private enterprise in this country. As a writer in the Boston Globe said:

"'. . .we had better begin to make up our minds just what we want for the railroads of this country. For at present, while we give heated lip service to private ownership, we are deliberately and perversely doing our best to tuck the roads away in moth balls in the public ownership chest.'"

—From an address at Chatham, Mass., by Herbert L. Baldwin, assistant vice-president, New York, New Haven & Hartford

of "raising" fuel Mr. Kettering pointed out that the sun is the source of all energy and that as long as the sun shines we don't need to worry. "The only thing we have that the sun works with is the leaf of the plant, yet we catch a lot of energy. We have a very large corn crop today, and you can get enough power from an acre of corn—if we have the proper way of transforming it into fuel—to run the average automobile about a year."

Speaking of automobile fuel the speaker remarked that an automobile uses about its own weight per year in fuel and that it would take about 80 million acres of ground to provide the fuel for 40 million automobiles, if we had the process, but, not having the process we fall back on the fact that Nature has stored up in the ground this enormous amount of fuel. These examples were used to show that in estimating the future fuel supply allowance must be made for inventive genius that will undoubtedly find the way to new kinds of fuel long before the supply of present types is depleted.

In concluding Mr. Kettering said that "so far as our ability to make things, to raise things, to fabricate and to transport things goes, no nation in the world has the opportunities that we have here. And so, if we can just think of the tremendous job that has been done in building this country; of the almost unbelievable job that the American railway system has done in bringing the United States to its present position, we should have nothing to fear and everything to hope for."

Mr. Davidson's Remarks

Mr. Davidson, in discussing the motive power situation from the standpoint of the bureau, said, in part:

"The transition from war to a peacetime economy has had a profound effect on the motive power situation in this country. A large number of old and decrepit locomotives are now retired or awaiting retirement. Efforts are under way on many railroads whereby the practice of substantial and lasting repairs, including some betterments, is the order of the day for those locomotives whose design and age indicate considerable prospective future usefulness.

"We are also witnessing a change in the motive power situation as a result of the introduction of the Diesel-electric type of locomotive in all kinds of service, switching, passenger and freight. The extent of total replacement of steam locomotives by Diesel-electrics is not yet determinable. It will undoubtedly reach a stage of equilibrium after factors of initial cost, fuel supply, maintenance costs, service life, etc., have become a matter of operating record. Undoubtedly there will be a place in our transportation system for both steam and Diesel-electric for many years to come and, as mechanical men, we should adjust ourselves accordingly.

"The Diesel-electric locomotive is, by its nature, more nearly a precision type of machine in many details than the steam locomotive. Tolerances in injectors, fuel pumps, valve mechanisms, bearings, cylinder and liner details are very small. Electrical equipment, including relays of various types, also requires a high standard of maintenance if sat-

(*Continued on page* 78)

Would End Evasive Accident Reporting

I.C.C. bureau says figures may underestimate casualties

Before getting to the prevention and analysis of its data on steam railway accidents in 1948, Accident Bulletin No. 117, which has been issued by the Interstate Commerce Commission's Bureau of Transport Economics and Statistics, warned that "the figures in some of the tables may somewhat understate the casualties on the railways in terms of accurate reporting in accordance with the commission's rules." The warning statement, given first place in the bulletin's "introductory comments," conceded that "most of the railways report all accidents and casualties which are properly reportable," but it went on to refer to "past experience" which has "unfortunately demonstrated that this has not been true of all railways in all cases."

"Inasmuch as statistical tabulations of accidents are necessarily based on the returns made by the railways, it is evident that the quality of the commission's statistics can be no better than that of the railway reports," the statement continued. "The bureau is, of course, most anxious to contribute in any way possible to greater accuracy in the accident data supplied by the railroads' reports and can contribute something by way of interpretation of accident reporting rules. But this is obviously no substitute for accuracy in railroad reports of accidents or for individual or common efforts on the part of the railways to improve the statistical quality of such reports. In the last analysis the accuracy and quality of the commission's statistics is and must continue to be the responsibility of the reporting railroads."

Fatality Rate Low in 1948

Data in the bulletin covered the calendar year 1948, and showed that during that year railroad accidents of all kinds brought death to 3,768 persons and injuries to 43,091. These compare with respective 1947 figures of 4,165 and 48,797. The 1948 fatality rate per million train-miles was 3.8, lowest of those shown in a table which gives annual rates back to 1939; and lower than the average of any of the three five-year periods from 1930 to 1944, inclusive. The 1947 fatality rate was 4.04.

A like showing was made with respect to the passenger-fatality rate, which was 1.33 per billion passenger-miles in 1948 as compared with 1.63 in 1947. Fifty-five passengers were killed in 1948 railway accidents of all kinds. This was the lowest number of passenger fatalities since 1941 when 42 occurred; and it compared with a 1947 total of 75 passenger fatalities.

The frequency rate for non-fatal injuries to persons of all classes likewise showed a decrease in 1948 as compared with 1947, the figures being 43.4 and 47.3 persons per million train-miles, respectively. Also, the rate for non-fatal injuries to passengers per billion passenger-miles was down from 1947's 111.9 to 1948's 110, the number of passengers injured having been 5,146 and 4,536, respectively. As the bureau pointed out, however, the passenger-injury rates of those two years were "somewhat greater than during the five previous years," when they ranged from 1940's 60.2 to 1946's 87.6.

Data on Railroad Employees

Data on casualties to employees showed that 568 were killed and 30,857 injured in accidents of all kinds in 1948, as compared with 709 killed and 35,732 injured in 1947. The fatality and injury rates per million man-hours were down, in 1948, as compared with 1947, from 0.206 to 0.168 and from 10.39 to 9.15, respectively. The 0.168 figure was the lowest employee fatality rate shown in a table which went back to 1939, while the 9.15 rate for employee injuries was the lowest since 1941's 8.69. A total of 3,372 million man-hours was worked in 1948 as compared with 3,439 million in 1947.

With respect to injuries to employees, the bulletin included the usual estimate of the monetary loss involved, on the basis of the "conservative value" of $8 per day per man. It calculated that 1,322,087 days were lost in 1948 as a result of non-fatal injuries to employees; and the resulting loss was put at $10,576,696. The comparable figure for 1947 was $10,143,464.

The fatality rate for trespassers in 1948 was up slightly from that of the previous year—0.87 as compared with 0.86 per million locomotive and motor-train miles. Meanwhile, the number of trespassers killed was down from 1,400 in 1947 to 1,370 in 1948. The 1948 injury rate for trespassers was 0.71 as compared with 1947's 0.72, the number of trespassers injured having dropped from 1,179 to 1,121.

There were 3,964 accidents at rail-highway grade crossings in 1948 as compared with 4,015 in 1947. Deaths in such accidents decreased from 1,790 in 1947 to 1,612 in 1948, but the number of persons injured remained about the same—4,255 in 1948 as compared with 4,251 in 1947. Noting that the number

of grade crossing accidents per million train-miles "has been steadily increasing since 1943," the bulletin called attention to the fact that this situation "continued to grow worse in 1948." The figures showed that the 1948 rate was 3.57 crossing accidents per million train-miles, as compared with 3.46 in 1947. The 1943 rate was 2.73.

"As was the case in 1947," the bulletin continued, "more than one-fifth of the persons killed and more than one-third of those injured in highway grade-crossing accidents during 1948 which involved motor vehicles were in vehicles which ran into the sides of trains. Nearly two-thirds of those killed and more than two-thirds of those injured were casualties in motor vehicle grade-crossing accidents which occurred between 6:00 p.m. and 6:00 a.m."

In 1948, two passengers and nine employees on duty on trains were killed as a result of accidents at highway grade crossings; and 42 passengers and 73 employees were injured. In 1947, two passengers and 19 employees were killed, and 67 passengers and 95 employees were injured. Damage to railroad property as a result of train accidents at highway grade crossings (not including accidents where the damage was less than $250) totaled $769,289 in 1948.

Discussing train accidents (those resulting from train operation in which railroad property damage exceeded $250), the bulletin pointed out that the number of such accidents per million locomotive and motor-train miles in 1948—7.58—is not comparable with the 1947 rate of 10.34 because of the change in the minimum-damage basis from $150 to $250. When recalculated on the new $250 basis the 1947 rate became 7.82, only slightly higher than 1948's 7.58. There were 11,893 reportable train accidents in 1948, of which 3,112 were collisions and 6,791 derailments. "Negligence of employees" was the principal cause of these accidents, accounting for 38.85 per cent of them. Meanwhile 32.44 per cent were caused by "defects in or failures of equipment," and 13.44 per cent by "defects in or improper maintenance of way and structures."

Freight Car Loadings

Loadings of revenue freight in the week ended September 17 totaled 743,022 cars, the Association of American Railroads announced on September 22. This was an increase of 118,825 cars, or 19.0 per cent, above the previous week (which included the Labor Day holiday), a decline of 166,967 cars, or 18.3 per cent, below the corresponding week last year, and a drop of 188,050 cars, or 20.2 per cent, below the equivalent 1947 week.

Loadings of revenue freight for the week ended September 10 totaled 624,197 cars, and the summary for that week as compiled by the Car Service Division, A.A.R., follows:

REVENUE FREIGHT CAR LOADINGS
For the week ended Saturday, September 10

District	1949*	1948*	1947†
Eastern	107,572	137,322	166,126
Allegheny	122,612	168,263	180,119
Pocahontas	36,281	61,617	74,087
Southern	92,242	115,783	134,706
Northwestern	113,683	130,366	149,091
Central Western	101,947	114,582	147,830
Southwestern	49,860	61,078	70,420
Total Western Districts	265,490	306,026	367,341
Total All Roads	624,197	789,011	922,379
Commodities:			
Grain and grain products	40,479	43,087	55,914
Livestock	11,923	11,849	18,792
Coal	90,565	158,740	186,898
Coke	9,512	14,048	13,015
Forest Products	35,047	42,997	50,309
Ore	62,299	72,151	71,667
Merchandise l c.l.	72,086	93,778	121,345
Miscellaneous	302,286	352,361	404,439
September 10	624,197	789,011	922,379
September 3	703,930	895,131	808,939
August 27	746,912	891,666	925,712
August 20	731,215	900,663	900,895
August 13	728,029	891,276	906,305
Cumulative total 36 weeks	25,748,834	29,497,588	30,549,218

*Included Labor Day holiday.
†Did not include Labor Day holiday.

In Canada.—Carloadings for the week ended September 10 totaled 73,526 cars, compared with 85,027 cars for the previous week, and 76,929 cars for the corresponding week last year, according to the compilation of the Dominion Bureau of Statistics.

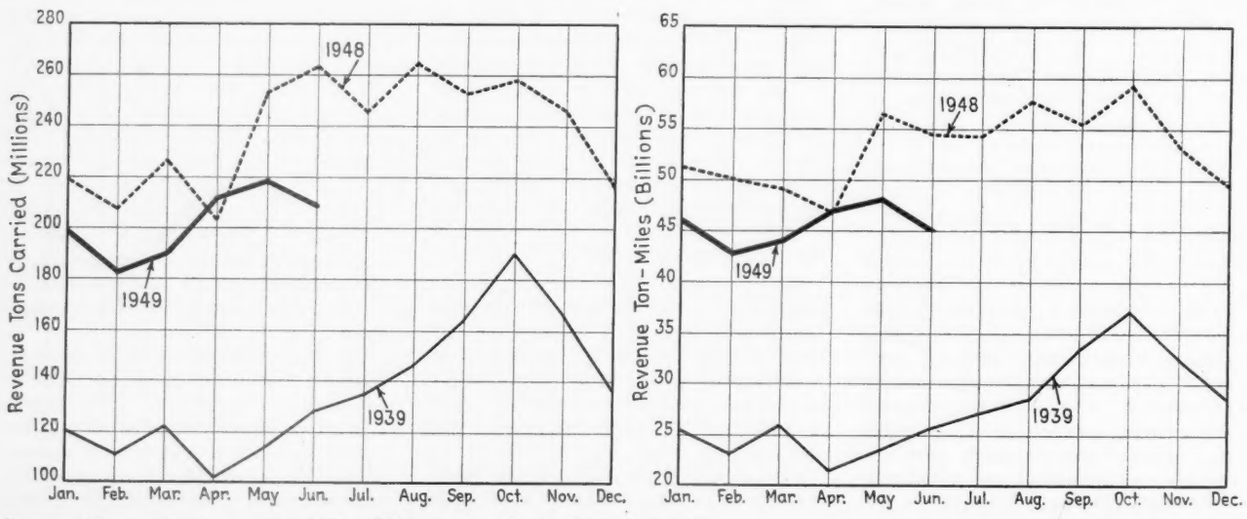
	Revenue Cars Loaded	Total Cars Rec'd from Connections
Totals for Canada:		
September 10, 1948	73,526	28,228
September 11, 1948	76,929	28,809
Cumulative totals for Canada:		
September 10, 1949	2,637,070	1,108,211
September 11, 1948	2,721,753	1,235,149

Finds No "Black Market" in Sale of Space on Trains

Evidence received in the Interstate Commerce Commission's investigation of space-sale practices of the railroads and Pullman Company made it "clear that there are no widespread 'black market' operations in the procurement and sale of spaces on passenger trains," Examiner Frank E. Mullen has advised the commission in his proposed report on the inquiry, Docket No. 30031. While the evidence indicated that hotel employees and others at Miami, Fla., have sometimes procured reservations and resold them at premium prices, even those activities "do not appear extensive enough to be characterized as black market operations," the examiner said.

Thus he recommended commission findings that present rules, regulations and practices of the Pullman Company with respect to the sale and redemption of Pullman tickets had not been shown to be unlawful; and that present practices of the railroads with respect to reservations and sale of tickets for space on trains had not been shown to be unlawful except that "withholding of space from general public sale for disposal by railroad officials for emergency purposes, or for use of preferred patrons, to the extent the space withheld for emergency purposes exceeds five per cent of sleeping units and three per cent of reserved seats in coaches," should be found unlawful. From the latter finding, the examiner would except reservations for organized group travel.

As to the activities of hotels and other non-railroad agencies, he would have the



Revenue Tons and Revenue Ton-Miles—1949 Compared with 1939 and 1948

commission find that the purchase of Pullman tickets by such agencies or their employees and the transfer of such tickets to another in return for reimbursement and a gratuity or fee, renders the tickets void and unredeemable because the transactions violate Pullman tariff rules prohibiting transfer and resale.

The examiner also recommended that railroads serving Miami establish ticket offices, or a consolidated ticket office, at Miami Beach during the winter season. And he made several other suggestions for changes in practices, which changes, he said, "would tend to remove to some extent the cause of the complaints and would be otherwise desirable." Another recommendation was that a "reasonable charge," except in special cases, be made by the Pullman Company for redeeming its tickets. The suggested charge would be 25 per cent of the amount refunded but not more than $2.

D. F. Fisher, Authority on Transport of Perishables, Dies

Durward Frederick Fisher, 61, of Takoma Park, Md., principal horticulturist in charge of transportation and storage research at the Department of Agriculture's Bureau of Plant Industries, Beltsville, Md., died on September 18 at Suburban Hospital, Washington, D. C., following a heart attack.

Mr. Fisher, who had been connected with the bureau since his graduation from Michigan State College in 1912, had long been active in the testing of perishable commodities in transit. Under his supervision the bureau's research department had made many improvements in packing practices and in designs for containers.

Canadian Roads Get Small Interim Rate Increase

The Canadian Board of Transport Commissioners at Ottawa, Ont., by a 2-to-1 decision made public on September 22, has awarded the Canadian railways a small interim freight rate increase. The roads had asked for a general increase of 20 per cent, and of 15 cents per ton on coal and coke; the board awarded them a general increase of 8 per cent and 8 cents per ton on coal and coke.

Board Chairman Maynard Archibald said that this was the only means of interim relief, and referred to the present hearings by a Royal Commission on Transportation. Mr. Archibald said a final freight rate increase decision could not be made until a report from the Royal Commission "untangled" the question of revision of the Canadian National's capital structure, and the prospects for further cooperative operating savings by the Canadian Pacific and the Canadian National.

"I am satisfied," Chairman Archibald said, "that there has been a substantial increase in operating costs since March 30, 1948, the date of the last authorized freight rate increase of 21 per cent, and that having regard to the great service rendered by railways in Canada, it is not fair to ask the railways to continue that service without providing them with additional sources of revenue."

The chief commissioner was supported by H. B. Chase, while Assistant Chief Commissioner Hugh Wardrope dissented, saying the railways should have been given all they asked.

Federal Court Receives Report on N. Y. O. & W.

Personnel, operating and traffic changes on the New York, Ontario & Western, designed to reduce the road's expenses and increase its revenues, were recommended in a special report filed by James P. Kiernan of Washington, D. C., with Federal Judge Edward A. Conger in New York on September 19.

Mr. Kiernan had been named by the National Mediation Board to conduct a survey of the road as one of the terms for settlement, on April 29 of this year, of an 11-day strike of operating employees caused by the company's inability to pay the 10-cents-per-hour wage increase granted to operating employees generally as of October 1, 1948. (See *Railway Age* of May 7, page 62.)

His report recommended operation of the road by a single trustee, with experience in short-line railroad operation, instead of by two as at present. He listed potential savings of $378,188 per year, to be derived as follows: Personnel changes, including reductions in the purchases and stores department, dispatching and station forces and the office of superintendent of transportation, and employment of additional trainmasters and a car service agent, $143,388 net; reduction of per diem charges, $50,000; elimination of joint passenger station at Sidney, N. Y., $4,800; substitution of automatic crossing gates for watchmen (involving an investment of $50,000), $70,000; new signaling facilities, $60,000, and reduction of local property taxes, $50,000.

He also recommended immediate application for a 20 per cent division, in place of existing 8 to 14 per cent divisions, on freight delivered to the N. Y. O. & W. at its northern connections, particularly at Norwich, N. Y., which he said would increase revenues by $100,000 per year.

He found the right-of-way to be in good condition, the roadway and bridges "fair," the Diesel locomotive shops well equipped and economical, the stations "more than adequate," and the motive power, all Diesel-electric, "practically new" and sufficient for traffic. He also expressed approval of equipment and track maintenance policies, but recommended annual tie and rail replacement programs, to begin in 1950, of 20,000 ties and 10 mi. of 100-lb. rail, and purchase of hopper cars. He considered the number of road and yard crews "excessive," but stated that the company's "scattered traffic" makes reduction difficult. He predicted that, "barring a general downturn in the economy," traffic volume should exceed that handled in the past six months.

The road's financial condition, he reported, was less satisfactory than its physical state, with accounts payable of over $5 million, cash balances of only a little over $200,000, accrued back wages of over $1 million, and an operating loss of $395,670 in the first six months of this year.

He also criticized the road's public and employee relations.

On September 20 the N. Y. O. & W. trustees, Raymond L. Gebhardt and Ferdinand J. Sieghardt, issued a joint statement in which they said: "The report . . . does not charge the management with any malfeasance, but deals with questions of policy in the operation of the property, concerning which there may well be differences of opinion. Mr. Kiernan indulges in rash generalities and conclusions, but these do not appear to have any substantial basis of fact as stated in the report. At the proper time it will be demonstrated that the accusations and conclusions of Mr. Kiernan are without foundation."

Over 31,000 Railroad Men Furloughed in Coal Strike

The year's second shutdown in mining of anthracite and bituminous coal, which began on September 19, had resulted, up to the time this issue of *Railway Age* went to press, in enforced layoffs for more than 31,000 railroad employees, on the basis of incomplete reports, with the number likely to go much higher if the strike proves to be of long duration.

The largest number of furloughs was reported by the Pennsylvania, which, effective September 21, laid off "approximately 15,000" shop and maintenance-of-way employees over its entire system, an action which officers of the road said was forced by the "disappearance of coal traffic and the generally low level of business." The Chesapeake & Ohio reported the furloughing of 6,262 employees, including 2,621 in its mechanical department, 1,908 in its maintenance-of-way forces and 1,733 in the transportation department.

On the New York Central, approximately 2,000 transportation department employees were idled by the strike, and, in addition, the road cancelled its plans to call back to work as of October 3 2,400 car shop employees who have already been on furlough since June 13. The 2,600 N. Y. C. locomotive shopmen who returned to work on September 6 after summer layoffs have not so far been affected by the strike. A spokesman for the Central indicated—as did those for some other railroads—that the reduction would probably have been

larger except that the company has been operating with reduced forces in view of the three-day mining week which had been in effect prior to the complete shutdown.

"The work stoppages in the nation's coal mines will mean a very serious drop in both business and revenues for the Jersey Central Lines," E. T. Moore, chief executive officer of that road, declared in announcing the enforced furloughing of about 825 employees, with possibility of further reductions "in every department" if the mine shutdowns continue. The Lehigh Valley "tentatively" laid off 294 mechanical men, mostly at Ashmore shops, near Hazleton, Pa., and 275 operating men at Hazleton, Wilkes-Barre, Coxton and Packerton. Furloughs were reported to total 3,750 on the Baltimore & Ohio; 1,650 on the Norfolk & Western, and 1,000 on the Reading.

The Erie and the Delaware, Lackawanna & Western reported no definite figures, but with force reductions likely "consistent with loss of business," while the New York, Ontario & Western indicated its present force reduction would be limited to "a few train crews."

Propose Pact On Tidewater Coal Demurrage at Ports

Fourteen railroads serving North Atlantic ports have filed with the Interstate Commission an application for approval of a proposed agreement covering procedures for the joint consideration, initiation, and establishment of tidewater demurrage and detention charges on coal and coal products moving through such ports. The application was filed under the Interstate Commerce Act's section 5A which was added last year by the Reed-Bulwinkle Act, and the commission has docketed it as Section 5A Application No. 13.

"Except in unimportant particulars," the application said, the proposed organization and procedures are the same as those which were in effect for many years and which "operated successfully and with great satisfaction to the carriers and shippers." The applicant roads are: Baltimore & Ohio; Central of New Jersey; Chesapeake & Ohio; Delaware, Lackawanna & Western; Lehigh Valley; New York Central; New York, Ontario & Western; New York, Susquehanna & Western; Norfolk & Western; Pennsylvania; Reading; Staten Island Rapid Transit; Virginian; Western Maryland.

Provision is made for participation on the same basis as these original applicants, by any other road which hereafter unloads tidewater coal at North Atlantic ports. The "principal tidewater shipping facilities" involved are those at the ports of Hampton Roads, Va., Baltimore, Md., Philadelphia, Pa., and New York.

The organization would consist of a single committee composed of representatives of railroads signatories to the agreement. Each signatory railroad would have a voice in the committee's determinations "proportionate to its participation in the unloading of the total traffic involved." Any member of the committee or "any other interested person" would be permitted to submit any proposal relating to tidewater coal demurrage to the committee; and at the request of a member or "other interested person" the committee would "afford interested parties opportunity to appear before it." Each participating railroad, the application emphasized, would be accorded "free and unrestrained right to take independent action" either before or after any determination arrived at through the committee's procedures.

The application noted that the 14 participting railroads are also among the applicants in the pending proceeding (Section 5A Application No. 7) wherein carrier parties to car-hire, demurrage and storage rules which are administered through the Association of American Railroads are seeking commission approval of that set-up. It explained, however, that the demurrage phase of that earlier proposal relates to demurrage "in general," whereas the matter of tidewater demurrage "presents a particular situation which is of immediate concern only to the applicants herein, and special provision with respect thereto is accordingly appropriate." The 14 roads, the application continued, adhere to the proposed A.A.R. agreement insofar as it relates to car-hire, demurrage and storage "in general," but they submit that their present proposal "is properly designed in the public interest to cover a particular special situation."

The commission's notice announcing receipt of the application said that any person desiring a hearing should request it in writing within 20 days from the notice's date (September 21). "Otherwise," the notice said, "the commission, in its discretion, may proceed to investigate and determine the matters involved in such application without further or formal hearing."

M.P. Strike Nears Third Week With Disputants Deadlocked

The strike of 5,000 operating employees which has completely tied up operations on the Missouri Pacific since September 9 was continuing unabated as this issue of *Railway Age* went to press. A series of proposals and counter-proposals were exchanged between the railroad and striking unions during the second week of the work stoppage, but none were acceptable to the disputants as a basis for settling the grievances (see *Railway Age* of September 10, page 75 and September 17, page 92). The unions involved are the Brotherhood of Locomotive Engineers, the Brotherhood of Locomotive Firemen & Enginemen, the Order of Railway Conductors and the Brotherhood of Railroad Trainmen.

The principal offer by Guy A. Thompson, trustee for the M.P., was that a three-man presidential board be allowed to enter the case and settle those issues which could not be disposed of by direct negotiations. This proposal would have the strike end immediately upon appointment of such a board. The brotherhoods, however, are holding out for negotiation with the company without a third party standing by and while the strike is in progress. Discussions thus far between the two parties have dealt only with the procedure by which the claims might be settled, with no talk whatever of the issues themselves.

Pickets continued sporadic interference with St. Louis Southwestern trains between East St. Louis, Ill., and Thebes, where Cotton Belt trains operate over M.P. trackage. The circuit court, on September 16, issued a temporary injunction against the four unions to stop the picketing. Pickets, together with sympathetic crew members aboard trains of other roads, also caused some delay to several trains at the Missouri river bridge at Atchison, Kan.

"We're Unhappy, Too"— S. P. Tells Commuters

On September 14 passengers aboard Southern Pacific San Francisco-peninsula commuter trains were each handed a five-page pamphlet headed, "We regret that we're forced to ask for a fare increase for our peninsula service—" The statement went on to explain why higher fares are essential and to point out that application would be made that day to the Public Utilities Commission.

The leaflet by Claude S. Peterson, vice-president, system passenger traffic, was prefaced by the following statement: "This little leaflet explains in detail a situation that we are just as unhappy about as you are. However, rising costs (including those occasioned by the 40-hr. week) make more revenue from our commuter service absolutely essential. Even the proposed increases will not cover out-of-pocket costs. So we hope you will be tolerant of our request. We are telling you this at first hand, as we have done in the past, so that you may have a better understanding of our problem."

The railroad's statement continued, in part: "Commuters riding the well filled commuter trains, nights and mornings, no doubt wonder why such well patronized trains lose money. The reason is that all this equipment has to be provided for very brief periods, and lies idle the rest of the time. We have 160 coaches in peninsula service and of this number 106 make but one round trip a day. The same situation applies to locomotives."

The proposed increases would affect all classes of peninsula fares, and for the five-day week commuter would range generally from 5 cent to 7 cents for each ride. Single trip one-way fares would be increased by approximately 13 per cent, and single round-trip fares would be 10 per cent less than double the one-way fares.

Cost of the 40-hr. week, said the railroad, will increase out-of-pocket loss from peninsula operations to nearly $1,000,000 annually. It pointed to the bankrupt Long Island, the biggest commuter line in the country, declaring that its plight "points a revealing finger at the difficulty of avoiding red ink figures in providing a short haul, low fare commutation service."

August Revenues 15.1 Per Cent Below Those of August, 1948

From preliminary reports of 82 Class I railroads representing 81.2 per cent of total operating revenues, the Association of American Railroads has estimated that the August gross amounted to $598,573,388, a decrease of 15.1 per cent below the $704,953,756 reported for the same 1948 month. Estimated August freight revenues were $488,833,921, as compared with August, 1948's $576,612,215, a decrease of 15.2 per cent. Estimated passenger revenues totaled $63,516,932, as compared with $75,777,436, a decrease of 16.2 per cent. The estimate for all other revenues was $46,222,535, as compared with $52,564,105, a decrease of 12.1 per cent.

Budd Diesel Rail Car Makes Introductory Run At Chicago

An all-stainless steel Diesel rail passenger car—most recent development of The Budd Company—was presented to the public at Union station, Chicago, on September 19, by Edward G. Budd, Jr., president of the manufacturing concern. The light-weight, self-propelled car (described and illustrated in *Railway Age* of September 17, page 68) is offered to the railroads for use in suburban, commuter, branch line, interurban and supplementary main line service.

Following a luncheon at the Union station, the car, designated by The Budd Company as RDC-1, made a press run to Valparaiso, Ind., 44 mi. east of Chicago on the Fort Wayne division of the Pennsylvania. The new car, Mr. Budd said, "is being offered to the railroads for use in the many services where it can improve net revenues."

Claims Men Hold Two-Day Training Course At Peoria

Some 50 freight claim inspectors and prevention men met at Peoria, Ill., on September 14 and 15 to attend one of a series of territorial conferences being held throughout the country to stimulate constructive action toward the "whittling down" of the carriers' $135 million claim bill. Emphasis was laid at this, the initial such meeting of the Chicago terminal and Peoria district committees of the Chicago Claim Conference, on analysis of the origin of damage so as to enable corrective measures to be taken, or to relieve the carriers of payments for damage not ascribable to them.

A. L. Green, senior special representative of the Freight Claim division of the Association of American Railroads, talked about the common types of damage which occur to canned goods, and which brought the claim charge for that commodity to $7.5 million in 1948. Mr. Green stated that while much of the damage was due to small oversights, little corrective action had been taken by the canners, for the simple reason that practically no claims are reported back to them. He pointed out that an important percentage of dented cans are "vacuum paneled" from a variance of internal and external pressures, a condition for which there is no common carrier liability. Slides showing vacuum paneled cans, and cans dented from transportation causes, were shown to facilitate their identification, and this type of damage was discussed by the field men themselves from the floor.

E. H. Shands, director of production and engineering, George D. Roper Corporation, addressed the conference on "Identifying Defects in Porcelainware." Samples of damaged shipments—finished partly or wholly in porcelain enamel — were exhibited and the nature and probable cause of the defects were explained by Mr. Shands so that such defects could be more readily determined to be of transportation or manufacturing origin.

The need for more careful switching; the value of speed tests to help switchmen cultivate a "better eye" for coupling speeds, and the importance of maintaining draft gears in good order — renewing worn parts whenever cars are shopped for general repairs—were also discussed.

To Speed Up "Sunset Limited"

The Southern Pacific, on October 2, will reduce the running time of its "Sunset Limited" between Los Angeles, Cal., and New Orleans, La., by 2 hr. 15 min. eastbound and 1 hr. 30 min. westbound. Under the new schedule the train is to depart from New Orleans at 11 a.m. (C.S.T.) and arrive in Los Angeles at 7:25 a.m. (P.S.T.) on the second morning; on its eastbound run it will depart from Los Angeles at 3 p.m. (P.S.T.) and arrive at New Orleans at 4 p.m. (C.S.T.) the second afternoon.

The road points out that the early arrival in Los Angeles will enable passengers to make connection with the "Morning Daylight" to San Francisco, and with the "San Joaquin Daylight," serving San Joaquin Valley cities enroute to Oakland, Sacramento and San Francisco. The new arrival time at New Orleans will improve connections with trains to northern, eastern and southeastern points.

D.&R.G.W. Buys Vista Dome Coaches

The Denver & Rio Grande Western has purchased three Vista Dome observation coaches from the Chesapeake & Ohio. The three cars, built by the Budd Company, were—up to the time of their sale—in service between Chicago and Grand Rapids, Mich., on the "Pere Marquettes." They are to be assigned to Rio Grande trains No. 1 and 2, the "Royal Gorge," between Denver, Colo., and Salt Lake City, Utah, before the first of next year.

ORGANIZATIONS

The **Northwest Locomotive Association** will hold its next meeting on October 17, 8 p.m., at the Midway Club, 1931 University avenue, St. Paul, Minn. A discussion, conducted by a representative of the Vanderhorst Corporation of America will follow the showing of "The Cradle of the Giant," a film on Diesel engine cylinder liners.

The New York division of **Railroad Enthusiasts, Inc.,** will hold its next regular meeting on September 28, at 7:45 p.m. in room 5928, Grand Central terminal. Alfred J. Kleinberger, a consulting engineer, will give an illustrated talk on the New York City Transit System, some of its background, history, unification, present and future problems, etc. Also, the Association of American Railroads' motion picture, "Mainline USA," will be shown.

A discussion of supplement No. 2 to the 1949 Rules will be held at the next meeting of the **Indianapolis Car Inspection Association** on October 3, at 7 p.m., in the assembly room of the Big Four building, Indianapolis, Ind.

"Prevention of Loss and Damage to Freight" will be the subject of an address by J. M. Francis, freight claim agent, Lehigh & New England, at the next meeting of the **Eastern Car Foremen's Association,** to be held on October 14, 8 p.m., in room 502, Engineering Societies building, 29 West 39th street, New York. A special feature of this meeting will be the showing of a sound motion picture entitled "Shockproof Shipping."

EQUIPMENT AND SUPPLIES

Equipment on Order

Class I railroads and railroad-owned and controlled refrigerator car lines had 27,681 new freight cars on order September 1, compared with 105,959 on order September 1, 1948, according to the Association of American Railroads. This year's September 1 total of cars on order by all railroads and private car lines was 28,731. On the same date, the Class I roads also had on order 896 locomo-

tives, as compared with 1,626 on order September 1, 1948.

The A.A.R. statement featured installations of locomotives in this year's first eight months, calling attention to the fact that the 1,296 engines then placed in service exceeded the comparable total for the first two-thirds of any year since 1923. The 1,296 included 1,249 Diesel-electrics and 47 steam locomotives. Installations in the first eight months of 1948 totaled 847 locomotives, including 802 Diesel-electrics, 41 steam, and 4 electrics.

Freight cars placed in service during this year's first eight months by the Class I roads and their affiliated refrigerator car lines totaled 66,564, of which 6,078 were installed in August. Retirements in the first eight months totaled 53,840 cars, of which 8,459 were retired in August. In the first eight months of last year, 69,083 new freight cars were placed in service while 52,771 cars were retired.

The 27,681 cars on order September 1 by the Class I roads and their car-line affiliates, included 13,741 to be built in railroad shops and 13,940 on or er from contract builders. The breakdown by types of cars was as follows: Box, 5,567, including 5,267 plain and ventilated and 300 auto box; hoppers, 9,822, including 1,688 covered hoppers; gondolas, 7,015; flat, 3,789; refrigerator, 1,332; miscellaneous, 156.

The 896 new locomotives on order September 1 included 869 Diesel-electrics, 23 steam, and 4 electrics. The 1,626 on order September 1, 1948, included 1,510 Diesel-electrics and 116 steam.

SIGNALING

The **Missouri Pacific** has ordered from the General Railway Signal Company equipment for extension of existing centralized traffic control between Elm Park, Mo., and Pleasant Hill, on to Strasburg, Mo., an additional 5.5 mi. The additional control facilities will be added to the existing control machine at Pleasant Hill. Model 5D dual-control electric switch machines, type K relays, and type G color-light signals will be used.

LOCOMOTIVES

The **Indiana Harbor Belt** has ordered 27 1,000-hp. Diesel-electric switching units from the Electro-Motive Division of General Motors Corporation at an approximate cost of $2,646,000. After delivery of this equipment, scheduled for next year, the I.H.B. will be completely Dieselized.

The **Southern** has ordered fifteen 1,500-hp. Diesel-electric road-switching units and thirty-five 1,000-hp. Diesel-electric yard switchers, to cost approximately $6 million. The orders went to Electro-Motive Division, General Motors Corporation, and to the American Locomotive Company. It is anticipated deliveries will begin in December this year.

CAR SERVICE

Revised I.C.C. Service Order No. 841, effective from September 21 until October 31 unless otherwise modified, has superseded Service Order No. 841. The revised order authorizes the substitution of two or three refrigerator cars for one box car ordered for the transportation of fruit and vegetable containers, box shooks or other packaging or packing materials from points of origin in California and southern Oregon to destinations in California; or for the transportation of sacked grain originating at any point in Oregon. The authority to transport the sacked grain was not in the original order.

SUPPLY TRADE

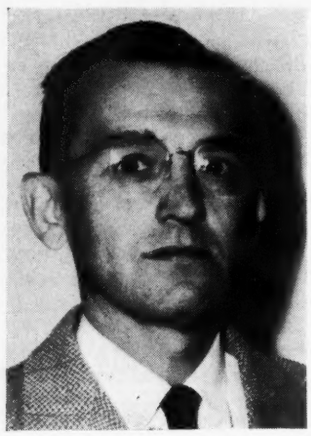
M. A. Hamrick, Chicago district manager for the Wood Preserving division of **Koppers Company** since 1945, has been appointed manager of sales methods at the firm's Pittsburgh (Pa.) divisional headquarters. A native of Cedartown, Ga., Mr. Hamrick received a B. A. degree from Oglethorpe University. After graduation he spent one year as foot-

M. A. Hamrick

ball coach at Southern Georgia A. & M. College, and in 1926 joined the Southern Wood Preserving Company. He first became associated with Koppers in 1928 at the Charleston wood preserving plant, and in 1941 was appointed district manager for the division at Houston, Tex. Four years later he was transferred to Chicago in the same capacity.

Gar Wood Industries, Inc., has established the Chicago Machinery branch, 301 West 37th street, Chicago, for sales and service of its Findlay Division product, the model 70 Clipper shovel, in northeastern Illinois and northwestern Indiana. **R. M. Ashley,** formerly assistant to the sales manager of the Findlay division, Findlay, Ohio, has been appointed manager of the Chicago branch.

C. J. Moore, formerly manager, Pittsburgh, Pa., branch of the **Electric Storage Battery Company,** has been appointed manager of Exide's railway and motive power sales division, and **C. H. Leet,** formerly a salesman in the industrial battery department of the Pittsburgh branch, has been appointed manager of



C. J. Moore

the branch. Mr. Moore joined the company in 1935 as a salesman in the industrial department at Pittsburgh. From 1942 to 1946, he was supervisor of motive power sales and, in the latter year, was transferred back to the Pittsburgh branch as assistant manager and shortly after was appointed manager.

Ralph A. Parker has been appointed eastern sales representative of the **Spring Packing Corporation,** with offices at 30 Rockefeller Plaza, New York 20. Mr. Parker was formerly engaged in railroad sales for the Ansonia Electrical Corporation, manufacturers of insulated wire and cable.

The **Commercial Filters Corporation,** Boston, Mass., has opened a mid-western sales office at 603 West Washington blvd., Chicago, 6, with **W. H. Magee,** formerly with the United States Gauge Company, as district manager.

A. N. Seares, formerly vice-president and general manager, systems division, **Remington Rand,** has been appointed vice-president and director of general domestic sales service operations, including the management controls, business machines and supplies and dealer sales divisions. The management controls division comprises the former accounting, photo records, tabulating and systems divisions. The new business machines and supplies division includes the former adding, calculating and typewriter divisions, in addition to the remtico and duplicator supplies divisions. The dealer sales division continues as a wholesale outlet for portable typewriters, adding ma-

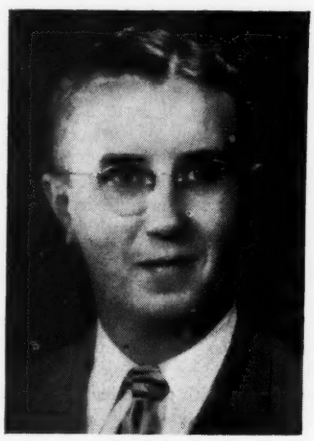
chines, Victor safe and equipment products, carbon papers, ribbons and duplicator supplies.

T. J. Norton, formerly general sales manager of the systems-photo records division, has been elected a vice-president and general sales manager of the new management controls division. **M. H. Simmons**, formerly assistant general sales manager of the systems-photo records division, has been advanced to sales manager of these operations. **H. V. Widdoes**, formerly vice-president of the typewriter division, now heads up the new business machines and supplies division as vice-president and general sales manager.

John R. Sinding has been appointed eastern sales manager of the **Spring Packing Corporation**, with headquarters at Philadelphia, Pa. He joined the firm in 1946 as a service engineer at Chicago, prior to which time he was a sales representative with the Morton Salt Company.

J. J. Collins, assistant general manager of **Iron & Steel Products, Inc.**, Chicago, has been advanced to general manager at that point. Mr. Collins joined the firm in 1948, after having served as superintendent of scrap and reclamation for the Erie at Meadville, Pa.

W. C. Bryant, whose appointment as representative in charge of the Houston, Tex., office of the **Westinghouse Air Brake Company** was announced in the *Railway Age* of September 17, joined the company in 1946, after serving for six years in the United States Army, where he



W. C. Bryant

attained the rank of lieutenant colonel. Mr. Bryant formerly was with the St. Louis-San Francisco and, after completing his machinist apprenticeship course, was identified with maintenance and operation of air brakes.

The **Midvale Company**, Philadelphia, Pa., has announced the following changes in its sales organization and personnel. **H. C. Lackey**, with headquarters in the Railway Exchange building, Chicago, has been appointed district sales manager there, with jurisdiction over the St. Louis, Mo., and Houston, Tex., districts; **J. R. Steele** has been appointed representative in St. Louis, with headquarters in the Shell Oil building; and **W. L. Van Winkle** has been appointed representative in Houston, with headquarters in the Second National Bank building. The jurisdiction of **A. R. Gaus**, district sales manager, Pittsburgh, Pa., has been extended to cover the Cleveland, Ohio, district. He will be assisted by **J. W. Baer** and **F. N. Satter**, the latter with headquarters in the Terminal Tower building, Cleveland. **A. Richter**, formerly salesman in the New York district, has been transferred to Washington, D. C., where the office will be continued in the Hill building under the supervision of **R. H. Romig**. The company also has announced the opening of an office in the Rice building, Boston, Mass., where **Herman Bergholtz** will continue as representative under the supervision of **A. H. Stewart**, New York district manager.

Preco Incorporated has announced the removal of their offices and factory to a new plant at 6300 East Slauson avenue, Los Angeles 22, Cal.

C. Victor Mars, former sales manager of the industrial chemical division of the **Ansul Chemical Company**, has been appointed manager of the new product department and **Robert J. Yaeger** has been appointed to succeed Mr. Mars.

J. F. Hawkins, formerly at Pittsburgh, Pa., has been appointed district sales manager of the Detroit, Mich., territory of the Page steel and wire division of the **American Chain & Cable Co.**, with headquarters in the General Motors building.

The Minneapolis, Minn., plant of the **Link-Belt Company**, has announced the opening of a district sales office in Duluth, Minn., with headquarters at 422 Board of Trade building, 301 West First street, Duluth 2. **John E. Morrison**, formerly district sales engineer at Chicago and Minneapolis, has been appointed district manager in charge of the new office, assisted by **Harold A. Ivarson**, who has been transferred from Minneapolis.

The **International Business Machines Corporation** has announced the appointment of **T. Vincent Learson**, formerly district manager at Detroit, Mich., as sales manager of the electric accounting machine division, with headquarters at New York, succeeding **Gordon P. Lovell**, who has been appointed dean of the I.B.M. school at Endicott, N. Y. The appointments of **Oliver Walker** as assistant electric accounting machine manager in the New York office and **Paul F. Steinkuller** as assistant manager of customer engineering at New York, also were announced.

OBITUARY

Stanley J. Turreff, 66, assistant to the president of the Union Switch & Signal Co., died recently at Sao Paulo, Brazil.

CONSTRUCTION

Lake Superior & Ishpeming.—The Interstate Commerce Commission has extended from October 15, 1949, to December 31, 1952, the time within which this road will be allowed to complete construction of a 14.3-mi. extension to its North Lake branch. The project, estimated to cost $900,000, was previously scheduled to be completed by October 15 (see *Railway Age* of December 11, 1948, page 79).

New York Central.—This road is completing the following construction work on its territory west of Buffalo, N. Y.: Facilities at Ashtabula Harbor, Ohio, for transfer of cargoes from self-unloading boats to cars, to be built by the railroad's forces, N. J. Pinney Company, Erie Concrete & Steel Supply Co., and the Northwest Electric Company; a toilet and locker room building for car department employees at Bellefontaine, Ohio, to be 28 ft. by 58 ft. and of concrete block construction, with John E. Nashlund, Inc., Cincinnati, Ohio, performing the work; addition to existing car repair shop at Detroit, Mich., by the Ellington Miller Company, Chicago, replacing car shop destroyed by fire last January; yard service building at Brooklyn yard, East St. Louis, Ill., to be 27 ft. by 60 ft. and of concrete block construction, with John E. Nashlund, Inc., as the contractor, and passenger station and customs and immigration facilities to replace an old structure at Fort Erie, Ont., work being performed by Johnson Brothers Company, Brantford, Ont. Other work to be undertaken soon includes a concrete block freighthouse office, 47 ft. by 51 ft., at Lafayette, Ind., and toilet and locker room facilities for car department employees at Mattoon, Ill., to be 28 ft. by 51 ft., one story high and of concrete block construction. Also, the road's passenger station building at Shelbyville, Ind., will be replaced with a brick structure having an interior of modern design. The 20-ft. by 66-ft. building will be constructed by the Shelby Construction Company, Shelbyville.

Pennsylvania-Wheeling & Lake Erie.—These roads have filed separate applications with the Interstate Commerce Commission for authority to construct extensions to branch lines in Harrison County, Ohio, for the purpose of serving mining operations to be started near Cadiz Township by the Pittsburgh Consolidated Coal Company. The Wheeling would construct a 2.2-mi. extension and

the Pennsylvania would construct a 4-mi. extension. Jointly they would construct a 2.3-mi. track connecting the two extensions.

Southern Pacific.—This road has undertaken the following projects, at the estimated costs shown in parentheses: Lay 3,210 ft. of track at Mulford, Cal., in connection with its new "support" yard serving Chrysler Motors and other large industries ($19,720); construct 1,757 ft. of track and relocate 1,326 ft. of track for the Weyerhaeuser Timber Company, at North Bend, Ore. ($20,560); build 125-car siding and re-arrange signals to facilitate movements of freight at Tulare, Cal. ($86,638), and construct 1,068 ft. of storage tracks, a 2,753-ft. main spur and a 963-ft. secondary spur, for Western Cotton Oil Company, at Fowler, Ariz. ($46,419).

Spokane, Portland & Seattle.—This road has awarded contracts, at the estimated costs shown in parentheses, to the Packard Pipe & Pump Co., Vancouver, Wash., for providing and installing fueling and sanding facilities to service Diesel locomotives, at Wishram, Wash., consisting of two 30,000-gal. Diesel oil storage tanks, a sand tower and 592 ft. of track ($25,004) and to the Parker-Schram Company, Portland, Ore., for placing a 72-in. extra strength reinforced concrete pipe with concrete headwalls and filling bridge U 12-9, 1.2 mi. west of Burlington, Ore. ($36,258). On behalf of the Oregon Trunk, a subsidiary of the S. P. & S., contracts have been given to Morrison-Knudsen Company, Boise, Idaho, for placing a 12 ft. by 12 ft. reinforced concrete box culvert 65 ft. long and filling bridge T 92-1, 1.9 mi. west of Gateway, Ore. ($29,225); to the General Construction Company, Portland, for placing two lines of 108-in. multi-plate culvert pipe 90 ft. long with concrete headwalls and filling bridge T 12-0, 1 mi. east of Kloan, Ore. ($25,471); to General Construction, for building a 12-ft. by 12-ft. reinforced concrete box culvert and filling bridge T 129-9, near Terrebonne, Ore. ($27,300), and to General Construction, for replacing bridge T 47-2 near Sherar, Ore., with three 65-ft. single-track deck plate girder spans on concrete piers and abutments ($90,500).

Western Pacific.—Division 4 of the Interstate Commerce Commission has authorized this road to construct a 2,694-ft. extension to its line in Marysville, Cal., which will provide a connection with the Southern Pacific for interchange of traffic. In the same report, the commission authorized trackage rights by the Sacramento Northern, the W.P.'s lessor, over the new track. The track, estimated to cost $35,913, will continue interchange arrangements heretofore provided by an S.P. track which the commission recently authorized that road to abandon to permit completion of a proposed highway (see *Railway Age* of July 30, page 64).

FINANCIAL

Alleghany Corporation.—*Offers to Exchange Stock.*—This company's board of directors has approved a plan by which holders of its prior preferred and series A preferred stocks may exchange a portion of their shares for dividend-paying stocks in Alleghany's portfolio. The offer applies to 50 per cent of the 47,817 shares of outstanding prior preferred stock and 15 per cent of the 342,091 shares of outstanding series A preferred stock. For each share of Alleghany prior preferred exchanged, the holder may choose 2½ shares of Chesapeake & Ohio common stock, or 2.43 shares of Chicago, Rock Island & Pacific common, or 1.33 shares of Kansas City Southern preferred. For each share of Alleghany series A preferred exchanged, the holder may choose 1.81 shares of C. & O. common, or 1.75 shares of Rock Island common.

The exchange offer was mailed to Alleghany stockholders on September 17 and expires October 7. If less than 50 per cent of the presently outstanding prior preferred or less than 15 per cent of the series A preferred has been exchanged by October 7, Alleghany has reserved the right to make a supplemental offer of the unallocated amounts on a first-come first-served basis to any holders of either issue.

Illinois Central.—*Refinancing Plan.*—This road has notified holders of certain underlying bonds maturing in 1951, 1953 and 1955, and amounting to $52,201,000, of an offer to exchange for these bonds a like principal amount of new consolidated mortgage 3¾ per cent bonds, series A and series B, due November 1, 1979, and series C, due November 1, 1974, plus adjustment of interest on the exchangeable bonds from November 1, 1949, to the maturity dates of the exchangeable bonds. The offer is subject to approval by the Interstate Commerce Commission and terminates on October 17, 1949, but may be extended in the discretion of the road's board of directors.

I. C. refunding mortgage 4 per cent bonds due November 1, 1955, are exchangeable for consolidated mortgage bonds, series A, due November 1, 1979, bearing interest at 4⅜ per cent to November 1, 1955, and 3¾ per cent thereafter. I. C. refunding mortgage 5 per cent bonds due November 1, 1955, are exchangeable for consolidated mortgage bonds, series B, due November 1, 1979, bearing interest at 5⅜ per cent to November 1, 1955, and 3¾ per cent thereafter.

The following bonds are exchangeable for 3¾ per cent consolidated mortgage bonds, series C, due November 1, 1974, with cash adjustments of interest per $1,000 bond as noted: I. C., Louisville division first mortgage 3½ per cent bonds due July 1, 1953, $4.58 per bond; Chicago, St. Louis & New Orleans consolidated mortgage 3½ per cent bonds due June 15, 1951, $2.03 per bond; C. St. L. & N. O. consolidated mortgage 5 per cent bonds due June 15, 1951, $26.41; and C. St. L. & N. O., Memphis division, first mortgage 4 per cent bonds due December 1, 1951, $13.02 per bond.

The maximum principal amounts of the three series of new consolidated mortgage bonds will not be limited, but the principal amounts to be presently issued, if the exchange offer is declared operative, will be equal only to the principal amounts of the exchangeable bonds submitted in pursuance to the offer. Each series of the new bonds will be redeemable as a whole or in part at any time upon not less than 30 days' notice and payment of stipulated premiums; a sinking fund is provided for all series.

Minneapolis & St. Louis.—*Trackage Rights.*—Division 4 of the Interstate Commerce Commission has authorized this road to acquire trackage rights over 20 mi. of Chicago, Burlington & Quincy and Wabash lines between Tracy, Iowa, and Albia. The rights will render unneccessary the reconstruction of a 5.25-mi. section of the M.&St.L. main line between Tracy and Fosterdale which was washed out by floods in June, 1947. In the same report, the commission authorized this road to abandon the washed-out section. The trackage agreement provides that the M.&St.L. shall pay the owning carriers 6 cents per car-mile, minimum 72 cents per train-mile, as trackage rental.

Pennsylvania.—*Stockholders Approve Lease Modifications.*—Stockholders of this company, at a special meeting in Philadelphia, Pa., on September 20, approved modification of leases between the Pennsylvania and 22 subsidiary companies in which it owns or controls a substantial stock interest. The modifications, the proposal for which was outlined in the *Railway Age* of June 25, page 112, and July 30, page 66, are expected to reduce the company's federal income taxes by about $2 million per year, thus increasing the net income by around 15 cents per share of capital stock, by providing for current accounting on and after January 1, 1949, with respect to depreciation, amortization and certain retirements. A group of motor truck operators who were reported several weeks ago to be buying stock in the Pennsylvania with the object of "securing a voice in management," and who had announced their intention of attending the special meeting, failed to make their presence known.

Reading.—*Merger of Leased Line.*—This road and its lessor, the Mill Creek & Mine Hill Navigation Railroad Co., have applied to the Interstate Commerce Commission for authority to merge the latter into the Reading. The Mill Creek extends from a connection with the Schuylkill Valley branch of the Reading at Mill Creek Junction, Pa., to Broad Mountain Station, 3.7 miles. The Reading has operated the road under

News Department continued on next left-hand page

A comfortable margin of **READY POWER**

From those who have watched our new switcher in service — on the Nickel Plate, Erie, New York Central, Cincinnati Union Terminal, St. Louis Terminal Railroad and Frisco, so far — come most favorable comments concerning available power and handling.

This is due to the simplified and efficient electrical control system. But more, it lies in the fact that this locomotive has a comfortable margin of ready power. The diesel easily develops 1200 hp at 950 rpm — it provides a full 1000 horsepower to the traction motors.

Ample power will keep maintenance at a low figure. This, with the many refinements suggested by operating men, plus others conceived by ourselves, will prove out on your railroad.

Arrange to have your people take a careful look at this switcher. It is powered by our own Hamilton-built engine. It uses standard Westinghouse rotating equipment. It uses standard accessories of the highest grade.

DIVISIONS: *Lima, Ohio*—Lima Locomotive Works Division; Lima Shovel and Crane Division. *Hamilton, Ohio*—Hooven, Owens, Rentschler Co.; Niles Tool Works Co. *Middletown, Ohio* — The United Welding Co.

PRINCIPAL PRODUCTS: Locomotives; Cranes and shovels; Niles heavy machine tools; Hamilton diesel and steam engines; Hamilton heavy metal stamping presses; Hamilton-Kruse automatic can-making machinery; Special heavy machinery; Heavy iron castings; Weldments.

LIMA HAMILTON CORPORATION

lease since 1886, and now owns more than two-thirds of its stock. The merger plan provides that the Mill Creek stock shall be cancelled and, except for shares held by itself, Reading shall deliver in exchange therefor its own first preferred stock on the basis of 1¼ shares for each share of Mill Creek stock. The application said that some savings will be effected through the elimination of the separate corporate functions of the Mill Creek.

Rutland. — *Reorganization Managers Appointed.*—Gardner A. Caverly, Wallace M. Fay and Irwin K. French, of Ascutney, Vt., Proctor and Middlebury, respectively, have been appointed by United States Circuit Judge Harrie P. Chase as reorganization managers to put into effect the plan of reorganization for this company approved by the Interstate Commerce Commission December 11, 1946, amended March 16, 1948 (Finance Docket No. 14635), approved by the federal district court for Vermont July 10, 1948, and accepted earlier this year by bondholders. The managers—designated by the mortgage trustees, the United States Trust Company of New York, the Central Hanover Bank & Trust Co. of New York and the Old Colony Trust Company of Boston, Mass.—will select, subject to court approval, the board of directors of the reorganized company and six trustees who will vote the new stock for five years. The reorganization plan contemplates issuance of $4,981,750 of new 5 per cent preferred stock and $6,011,200 of new common stock, both of $100 par value, to be distributed to holders of outstanding bonds aggregating $9,216,000 in face value, on the basis of 5 shares of preferred and 7 of common for each $1,000 Rutland first consolidated bond; 6 shares of preferred and 6 of common for each $1,000 Ogdensburg & Lake Champlain first mortgage bond, and 4.5 shares of preferred and 7 of common for each Rutland-Canadian $1,000 first mortgage bond. The old preferred and common stocks were found to be without value.

New Securities

Application has been filed with the Interstate Commerce Commission by:

Pittsburgh & Lake Erie.—To issue $4,000,000 of one-year, unsecured 2 per cent promissory notes to be delivered to the Mellon National Bank & Trust Co., of Pittsburgh, Pa., to evidence a loan of like amount to be made by the bank to this road. Proceeds of the notes, which will be payable in whole or in part before maturity, will be used to make repayment of $2,000,000 advanced to the P. & L. E. by its parent road, the New York Central; to pay for undelivered equipment estimated to cost $1,520,600; and to replenish cash working balances so that they will total approximately $2,500,000.

Division 4 of the I.C.C. has **authorized:**

Chicago, Milwaukee, St. Paul & Pacific.—To assume liability for $5,640,000 of series JJ equipment trust certificates to finance in part 2,200 gondola cars and 50 cabooses (see *Railway Age* of August 20, page 75). The certificates will be dated September 1 and will mature in 30 semiannual installments of $188,000 each, beginning March 1, 1950. The commission's report approved a selling price of 99.08 with a 2⅛ per cent interest rate—the bid of Harris, Hall & Co. and associates, which will make the average annual interest cost approximately 2.26 per cent. The certificates were reoffered to the public at prices yielding from 1.2 to 2.5 per cent, according to maturity.

Chicago, Rock Island & Pacific.—To assume liability for $3,552,000 of Series F equipment trust certificates to finance in part acquisition of 500 gondola cars and 20 suburban passenger coaches (see *Railway Age* of August 20, page 75). The certificates will be dated October 1, and will mature in 24 semiannual installments of $148,000 each, beginning April 1, 1950. The commission's report approved a selling price of 99.034 with a 1⅞ per cent interest rate—the bid of Harriman Ripley & Co., which will make the average annual interest cost approximately 2.05 per cent. The certificates were reoffered to the public at prices yielding from 1.1 to 2.3 per cent, according to maturity.

Average Prices Stocks & Bonds

	Sept. 20	Last week	Last year
Average price of 20 representative railway stocks	37.27	38.40	48.25
Average price of 20 representative railway bonds	85.32	85.72	88 58

Dividends Declared

Akron, Canton & Youngstown.—common, 50¢, semiannual; extra, $1.50; 5% preferred, $2.50, semiannual; all payable October 1 to holders of record September 15.

Mahoning Coal.—$12.50, quarterly, payable October 1 to holders of record September 26.

Maine Central.—6% prior preferred, $1.50, quarterly, payable October 1 to holders of record September 24.

New London Northern.—$1.75, quarterly, payable October 1 to holders of record September 15.

Piedmont & Northern.—75¢, quarterly, payable October 20 to holders of record October 5.

Providence & Worcester.—$2.50, payable October 1 to holders of record September 16.

Texas & Pacific.—common, $1.00; 5% noncumulative peferred, $1.25, quarterly; both payable September 30 to holders of record September 26.

Investment House Publications

[The surveys listed herein are, for the most part, prepared by financial houses for the information of their customers. Knowing that many such surveys contain valuable information, *Railway Age* lists them as a service to its readers, but assumes no responsibility for facts or opinions which they may contain bearing upon the attractiveness of specific securities.]

Baker, Weeks & Harden, One Wall st., New York 5.

Baltimore & Ohio Railroad. First 4s, 1975. August 30.

Chicago, Rock Island & Pacific. Income 4½s, 2019. September 8.

Chicago, Terre Haute & Southeastern. 1st & Refunding 2¾-4¼, 1994. September 8.

Great Northern Railway. General 2⅝, 2010. August 30.

Kansas City Southern. First 4s, Series A, 1975. September 7.

Nashville, Chattanooga & St. Louis. First 3s, 1986. September 8.

New York Central Railroad. New York Central Cons. Mtge. Gold 4s, 1998; N.Y.C. & Hudson River Gold Mtge. 3½s, 1997; N.Y.C. & Hudson River Lake Shore Collateral 3½s, 1998. September 2.

New York, New Haven & Hartford Railroad. 1st 4s, 2007. September 7.

Northern Pacific Railway. First 4s, 1997. August 31.

Pittsburgh, Bessemer & Lake Erie. First 2⅞s, 1996. August 31.

Reading Company. First & Refunding 3⅛, 1995. September 6.

Seaboard Air Line. Income Mortgage 4½s, 2016. September 6.

Kerr & Co., 704 South Spring St., Los Angeles 14, Cal.

Canadian Pacific Railway Company. August 19, No. 842.

R. W. Pressprich & Co., 68 William st., New York 5.

New Orleans, Texas & Mexico Railway. First Mtge. 4½% due August 1, 1956; First Mtge. 5% due April 1, 1954; First Mtge. 5% due August 1, 1956; First Mtge. 5½% due April 1, 1954. August 23.

Smith, Barney & Co., 14 Wall st., New York 5.

Railroad Bonds. Railroad Bulletin No. 33, September 9. (See article in *Railway Age*, September 10, page 63.)

Texas & Pacific Railway Company. Common stock. Railroad Bulletin No. 34.

RAILWAY OFFICERS

EXECUTIVE

C. J. Leary, assistant to vice-president, personnel, of the Railway Express Agency, has been appointed assistant to vice-president—operations, with headquarters as before at New York, succeeding **Raymond P. Woodman**, who has retired after more than 44 years of service. Mr. Woodman was born at Beverly, Mass., and began his express career at New York. He headed the general manager's staff at Boston, Mass., later becoming superintendent there. In 1937 he returned to New York as superintendent of organization and in 1941 was appointed assistant to vice-president, which post he held until his retirement.

Thomas A. Hynes, vice-president of the New Jersey, Indiana & Illinois, at South Bend, Ind., will retire on October 1.

FINANCIAL, LEGAL & ACCOUNTING

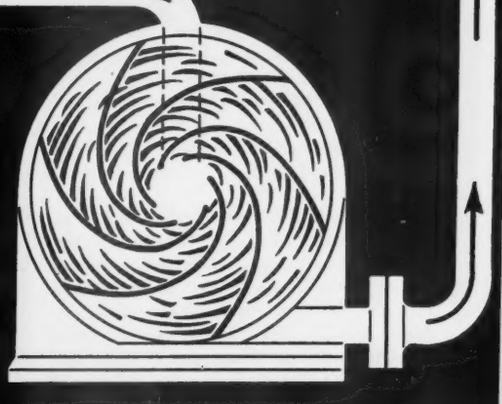
Harold H. McLean, assistant general counsel of the New York Central system, has been appointed general solicitor, with headquarters as before at New York, succeeding the late **Thomas P. Healy,** whose death on August 26 was reported in the *Railway Age* of September 3. **Kenneth F. Stone,** assistant general solicitor, has been appointed assistant general counsel, with headquarters as before at New York.

Mr. McLean attended Detroit Junior

News Department continued on next left-hand page

An Important Feature
of the
ELESCO CONTROLLED RE-CIRCULATION
STEAM GENERATOR

Controlled Re-circulation insures longer life . . . and full capacity for sustained periods



THE
SUPERHEATER CO.
Division of
COMBUSTION ENGINEERING-
SUPERHEATER, INC.
Representative of AMERICAN THROTTLE COMPANY, INC.
60 East 42nd Street, NEW YORK
122 S. Michigan Ave., CHICAGO
ELESCO
Montreal, Canada, THE SUPERHEATER COMPANY, Ltd.

Superheaters • Superheater Pyrometers • Exhaust Steam Injectors • Steam Dryers • Feedwater Heaters • Steam Generators • Oil Separators • American Throttles

College (now Wayne University) and the University of Chicago, from which he received degrees in 1925 and 1926. He was with the Central's legal department at Detroit, Mich., as an attorney and subsequently as assistant general attorney from 1927 until 1940, when he went to New York as commerce counsel. Mr. McLean served in the latter position until 1946, when he became assistant general counsel, the position he held until his recent appointment as general solicitor in charge of commerce law work.

Harold H. McLean

Mr. Stone is a native of Chippewa Falls, Wis., and was graduated from the University of Michigan in 1931. He joined the New York Central as an attorney at Detroit in 1931 and was promoted to assistant general attorney there in 1940. Mr. Stone became assistant general counsel in 1946 and a year later was appointed commerce counsel at New York. On February 1, 1948, he was appointed assistant general solicitor at New York.

OPERATING

B. B. Vaughan, acting trainmaster of the Jacksonville district of the Atlantic Coast Line at Sanford, Fla., has been appointed trainmaster of that district.

G. M. Hare, trainmaster of the Northern Pacific at Tacoma, Wash., has been advanced to assistant superintendent of the road's Lake Superior division and to superintendent of the Duluth Union Depot & Transfer, at Duluth, Minn. He succeeds the late **C. T. Sponsel.**

Orlando H. Frick, who will retire as general manager of the Chicago Union Station at Chicago on October 1, as reported in the *Railway Age* of September 17, was born at Manitowoc, Wis., on September 25, 1879. He graduated from the University of Wisconsin in 1902, and started his railroad career the same year with the Louisville & Nashville as a levelman on a construction crew. After serving as assistant engineer on the Chicago, Rock Island & Pacific, he became resident engineer of the Missouri, Oklahoma & Gulf (now Kansas, Oklahoma & Gulf) at Muskogee, Okla., in 1904. Later the same year he was appointed a resident engineer in Florida for the Apalachicola Northern. He subsequently joined the Chicago, Milwaukee, St. Paul & Pacific, and served successively as assistant engineer, pilot engineer and field engineer on valuation, until his promotion to district engineer of the middle district at Milwaukee, Wis., in 1919. Mr. Frick was advanced to superintendent of the Milwaukee's La Crosse division at Portage, Wis., in 1922, and became general manager of the Chicago Union Station in 1931.

TRAFFIC

W. G. Fielding has been appointed general agent of the Grand Trunk Western at Portland, Ore.

H. B. Bovee, foreign freight agent of the Pennsylvania at Chicago, has been appointed New England freight agent, with headquarters at Boston, Mass., succeeding **John A. Prince,** who who has been appointed division freight agent at New York, to succeed **W. K. Emery,** retired.

Tod C. Olsen, traveling freight agent of the New York Central at Milwaukee, Wis., has been advanced to general agent at Portland, Ore., succeeding **H. G. Heiser,** who has resigned.

Downie C. Pate has been appointed general freight agent of the New Jersey, Indiana & Illinois at South Bend, Ind.

Herbert H. Harwood, executive assistant in the traffic department of the New York Central at Washington, D. C., has been appointed general passenger agent of the Pittsburgh & Lake Erie (N.Y.C. affiliate) at Pittsburgh, Pa., effective October 1, succeeding **Charles Fendrych,** who has been appointed general passenger agent of the N.Y.C. system at Cleveland, Ohio. Mr. Fendrych succeeds **Louis A. Schroeder,** who will retire on October 1, after more than 50 years of service. **Warren H. White,** general agent in the passenger department at Portland, Ore., has been transferred to Washington.

Mr. Harwood was born at New York in 1903 and was graduated from Dartmouth College in 1926. He entered the service of the N.Y.C. in the designing engineer's office at New York in 1931, and joined the passenger department as a representative in 1937, transferring to Washington in 1941. He became general agent there in 1942 and executive assistant in 1947.

Mr. Schroeder was born at Cleveland, Ohio, in 1881 and entered the service of the Central as a clerk in the station master's office there in 1899. In 1901 he became a clerk in the signal engineer's office and later that year joined the passenger department at Cleveland as a ticket seller. He was appointed city ticket agent at Toledo, Ohio, in 1908; general agent there in 1916; chief clerk to the general passenger agent at Cleveland in 1918, and division passenger agent there in 1920. Mr. Schroeder was appointed assistant general passenger agent at New York in 1929 and returned to Cleveland in 1937, becoming general passenger agent there in 1945.

ENGINEERING & SIGNALING

S. L. Mapes, chief engineer of the Central of New Jersey at Jersey City, N. J., will retain that title when the road emerges from bankruptcy on October 1 (see *Railway Age* of September 3, page 80).

George S. McClure, assistant engineer in charge of roadway for the Pacific Electric, who participated in the construction of many P. E. lines, has retired after 46 years with the company. He has been succeeded by **Rudolf Widmann,** who has been appointed engineer maintenance of way.

Lorne J. Hughes, assistant engineer in the office of chief engineer, Chicago, Rock Island & Pacific, at Chicago, has been advanced to principal assistant engineer at that point, succeeding **J. G. Wishart,** who has retired after 45 years of service with the road.

A. D. Shackelford, assistant division engineer of the Lakehead division of the Canadian Pacific, at Ft. William, Ont., has been promoted to division engineer of the Dauphin division, with headquarters at Dauphin, Man., succeeding **R. C. Robinson,** who has retired.

OBITUARY

Alexander Holley Rudd, who retired on March 31, 1937, as chief signal engineer of the Pennsylvania system, died at Lakeville, Conn., on September 17, at the age of 82.

J. W. Shields, assistant comptroller of the Norfolk & Western at Roanoke, Va., died in that city on September 3, at the age of 55. Mr. Shields joined the N.&W. as a messenger in the accounting department in October, 1908, and was advanced successively in that department at Roanoke to clerk, bookkeeper, chief clerk to the auditor of disbursements, chief clerk to the comptroller and general accountant. He was promoted to auditor of disbursements on December 1, 1938, and became assistant comptroller on June 1, 1945.

C. T. Sponsel, assistant superintendent of the Northern Pacific's Lake Superior division and superintendent of the Duluth Union Depot & Transfer, at Duluth, Minn., died recently.

I. F. Stern, 78, formerly bridge engineer of the Chicago & North Western, Chicago, died in that city on September 10.

News Department continued on second left-hand page

In every type—every assignment—

the Control Center

of modern road locomotives is the 24-RL

Passenger or freight, diesel, steam or electric—no matter what type of modern motive power you are buying or building, Westinghouse 24-RL brake equipment will provide any and all the braking functions required.

The 24-RL is a composite brake equipment, so designed that supplementary control functions can be incorporated at any time by inserting supplementary parts. Train control, safety control, overspeed features, and electro-pneumatic brake control for passenger service can be added in various combinations with no alteration in the basic piping. Because of this flexibility, this equipment is particularly well suited to modern "assembly line" production of locomotives.

Details of various combinations are given in Catalog No. 2058, sent on request.

Westinghouse Air Brake Co.

WILMERDING, PA.

Freight Operating Statistics of Large Steam Railways — Selected

Region	Road and year	Miles of road operated	Locomotive-miles: Train-miles	Locomotive-miles: Principal and helper	Locomotive-miles: Light	Car-miles: Loaded (*thousands*)	Car-miles: Per cent loaded	Ton-miles (*thousands*): Gross excl.locos. & tenders	Ton-miles (*thousands*): Net rev. and non-rev.	Road-locos. on lines: Serviceable: Unstored	Road-locos. on lines: Serviceable: Stored	Road-locos. on lines: B.O.	Road-locos. on lines: Per cent B.O.
New Eng. Region	Boston & Maine 1949	1,746	257,735	264,818	12,057	9,283	67.6	578,209	238,615	91	14	14	11.8
	1948	1,746	297,242	305,992	14,111	10,681	70.1	670,135	295,530	97	3	17	14.5
	N. Y., N. H. & Htfd. 1949	1,774	271,185	272,891	16,797	10,546	65.4	658,160	279,854	118	11	10	7.2
	1948	1,620	344,159	347,532	30,415	12,993	68.6	796,240	351,603	137	12	37	19.9
Great Lakes Region	Delaware & Hudson 1949	794	228,797	272,158	30,772	9,525	66.2	673,747	344,932	115	56	25	12.8
	1948	794	277,147	335,719	35,359	11,930	68.3	862,906	467,830	130	29	24	13.1
	Del., Lack. & Western 1949	966	264,218	306,681	35,737	11,553	65.6	776,466	339,824	101	15	28	19.4
	1948	970	307,197	344,561	38,070	13,294	69.7	886,973	418,410	104	25	18	12.2
	Erie 1949	2,231	596,088	615,427	41,359	31,099	65.7	1,998,910	800,753	187	65	36	12.5
	1948	2,229	653,089	691,449	59,263	34,290	65.3	2,304,774	993,805	234	53	84	22.6
	Grand Trunk Western 1949	971	241,866	250,053	2,178	8,115	62.3	549,125	224,763	54	2	7	11.1
	1948	972	294,170	299,854	2,444	9,474	66.7	633,076	288,784	64	6	10	12.5
	Lehigh Valley 1949	1,239	232,895	249,663	26,973	10,837	65.6	758,170	354,061	55	16	21	22.8
	1948	1,239	307,626	342,662	45,146	12,456	68.2	859,227	426,771	83	4	27	23.7
	New York Central 1949	10,689	2,838,066	3,014,834	173,771	100,332	60.5	6,969,545	3,061,564	939	198	327	22.3
	1948	10,692	3,353,210	3,598,774	249,847	118,046	63.0	8,371,525	3,957,278	1,117	75	317	21.0
	New York, Chic. & St. L. 1949	1,656	532,827	539,350	4,709	21,315	64.5	1,408,816	556,891	130	39	15	8.2
	1948	1,656	607,454	615,140	8,340	24,892	68.3	1,614,317	716,856	136	13	19	11.3
	Pitts. & Lake Erie 1949	221	79,342	81,342	53	3,338	68.1	292,188	180,846	30	8	14	26.9
	1948	223	92,054	93,739	380	4,355	70.6	364,604	224,473	31	5	15	29.4
	Wabash 1949	2,381	584,320	590,980	10,218	20,718	65.7	1,342,765	522,716	155	14	36	17.6
	1948	2,381	649,364	661,548	15,311	23,037	69.9	1,477,477	638,405	156	13	34	16.7
Central Eastern Region	Baltimore & Ohio 1949	6,086	1,686,556	2,046,417	241,443	61,559	61.4	4,659,484	2,267,488	787	58	225	21.0
	1948	6,076	1,964,261	2,419,097	266,998	68,613	62.5	5,240,128	2,643,304	812	2	298	26.8
	Central of New Jersey* 1949	415	67,593	67,953	4,489	2,538	63.6	189,677	96,633	30	2	6	15.8
	1948	417	79,480	83,109	9,532	3,113	66.5	232,783	118,956	49	3	16	23.5
	Central of Pennsylvania 1949	212	67,832	75,100	11,923	2,501	63.6	191,684	98,865	36	5	16	28.1
	1948	213	79,161	90,145	15,946	3,014	69.3	225,525	122,772	39	3	13	23.6
	Chicago & Eastern Ill 1949	909	118,302	118,922	2,776	4,177	68.1	269,111	123,855	27	22	10	16.9
	1948	909	171,397	172,295	4,031	5,348	66.8	372,338	183,916	53	..	16	23.2
	Elgin, Joliet & Eastern 1949	238	87,373	87,668	...	3,219	67.0	246,357	134,113	34	..	..	..
	1948	391	107,530	108,347	293	3,672	68.3	287,311	160,803	39	8	..	..
	Pennsylvania System 1949	10,039	2,909,022	3,232,260	385,506	119,237	61.4	8,787,961	4,135,855	1,327	172	400	21.1
	1948	10,023	3,782,413	4,260,462	549,787	150,933	64.1	11,004,517	5,467,614	1,817	18	258	12.3
	Reading 1949	1,323	360,312	377,948	30,407	12,765	61.0	1,016,460	533,576	163	51	38	15.1
	1948	1,337	445,635	475,199	48,555	16,505	65.5	1,275,789	705,595	204	22	42	15.7
	Western Maryland 1949	836	169,723	207,177	27,132	5,904	62.4	483,433	264,025	153	15	12	6.7
	1948	837	207,981	252,323	39,910	7,352	62.0	607,689	335,038	159	4	12	6.9
Pocahontas Region	Chesapeake & Ohio 1949	5,041	1,337,407	1,416,971	56,937	56,409	56.7	4,783,518	2,610,180	543	31	116	16.8
	1948	5,003	1,691,826	1,814,234	85,495	74,462	58.6	6,293,647	3,588,313	597	8	92	13.2
	Norfolk & Western 1949	2,107	648,534	687,074	46,522	28,943	57.1	2,502,141	1,330,160	252	54	20	6.1
	1948	2,107	885,085	950,297	70,425	40,277	58.1	3,608,476	2,008,998	281	18	29	8.8
Southern Region	Atlantic Coast Line 1949	5,543	802,150	812,564	11,613	20,319	60.6	1,390,729	590,974	326	30	83	18.9
	1948	5,552	987,825	1,016,122	14,059	25,456	65.1	1,705,242	775,433	361	2	80	18.1
	Central of Georgia 1949	1,783	241,993	244,526	3,773	6,224	70.2	398,323	184,032	102	4	12	10.2
	1948	1,783	301,356	306,259	5,052	7,584	70.4	498,597	238,174	99	2	10	9.0
	Gulf, Mobile & Ohio 1949	2,854	297,719	297,719	209	13,333	70.5	866,607	402,978	77	27	5	4.6
	1948	2,847	352,961	357,212	365	16,728	71.2	1,106,263	534,032	110	20	18	12.2
	Illinois Central 1949	6,544	1,335,819	1,338,254	45,816	46,537	61.2	3,274,239	1,482,889	510	77	72	10.9
	1948	6,550	1,455,117	1,458,619	51,509	52,037	63.2	3,696,688	1,755,921	567	8	83	12.6
	Louisville & Nashville 1949	4,765	1,139,811	1,225,395	30,997	30,406	60.6	2,235,496	1,112,131	336	79	56	11.9
	1948	4,750	1,538,714	1,660,036	45,069	39,540	61.4	2,964,586	1,527,370	400	1	83	17.1
	Nash., Chatt. & St. Louis 1949	1,051	205,782	207,081	3,154	5,741	71.1	348,953	161,278	68	..	4	5.6
	1948	1,051	262,506	274,406	7,773	6,318	75.5	397,625	193,822	92	..	8	8.0
	Seaboard Air Line 1949	4,138	683,299	698,456	7,416	20,175	62.5	1,377,149	590,336	232	36	42	13.5
	1948	4,141	780,620	817,810	13,164	23,155	66.0	1,559,327	712,256	280	7	57	16.6
	Southern 1949	6,382	1,101,683	1,108,654	11,721	33,481	64.7	2,170,375	921,366	418	114	160	23.1
	1948	6,449	1,594,206	1,620,783	28,705	42,355	68.6	2,750,411	1,255,762	543	18	114	16.9
Northwestern Region	Chicago & North Western 1949	8,073	871,463	904,944	22,380	28,806	64.9	2,023,620	878,583	319	50	93	20.1
	1948	8,055	987,441	1,029,951	26,042	32,751	67.0	2,277,050	1,015,281	361	5	99	21.3
	Chicago Great Western 1949	1,445	152,642	153,232	5,993	7,896	68.7	498,159	212,275	51	2	12	18.5
	1948	1,445	211,941	212,177	10,694	8,864	69.6	583,608	264,984	47	6	24	31.2
	Chic., Milw., St. P. & Pac. 1949	10,663	1,252,531	1,300,114	46,707	43,478	64.6	3,000,492	1,355,774	425	111	65	10.8
	1948	10,663	1,352,781	1,419,524	53,387	43,966	64.7	3,021,122	1,373,329	454	67	75	12.6
	Chic., St. P., Minn. & Omaha 1949	1,606	174,320	181,865	8,258	4,692	67.7	315,330	134,444	79	6	24	22.0
	1948	1,606	203,559	216,142	13,885	5,560	70.5	373,976	176,477	74	1	40	34.8
	Duluth, Missabe & Iron Range 1949	574	166,590	167,618	1,377	8,890	50.5	899,723	542,300	41	..	1	2.4
	1948	571	172,173	172,888	1,143	9,327	51.5	874,816	526,164	52	..	1	1.9
	Great Northern 1949	8,222	962,059	958,102	42,041	41,039	65.8	3,132,455	1,594,465	326	77	55	12.0
	1948	8,237	1,001,697	1,000,365	51,043	41,794	64.7	3,105,061	1,567,312	351	41	77	16.4
	Minneap., St.P. & S. Ste. M. 1949	4,179	381,009	387,049	5,735	12,534	65.5	847,577	398,142	111	..	18	14.0
	1948	4,180	396,402	403,498	6,185	12,200	67.7	814,891	390,675	124	..	11	8.1
	Northern Pacific 1949	6,592	806,081	840,181	49,494	31,679	69.0	2,219,117	1,031,403	302	36	65	16.1
	1948	6,613	779,823	816,404	47,122	30,217	68.1	2,079,057	979,480	308	46	56	13.7
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.) 1949	13,103	2,829,466	3,025,782	160,047	110,050	64.9	7,577,037	2,834,015	742	91	90	9.8
	1948	13,081	3,218,098	3,477,189	180,342	121,425	67.0	8,218,836	3,295,900	802	33	139	14.3
	Chic., Burl. & Quincy 1949	8,680	1,025,927	1,035,253	31,205	42,069	67.0	2,843,422	1,305,515	321	95	110	20.9
	1948	8,670	1,208,718	1,230,001	42,186	48,124	63.5	3,386,504	1,547,297	371	56	96	18.4
	Chic., Rock I. & Pac. 1949	7,589	1,105,677	1,135,828	12,504	36,622	60.5	2,550,297	1,054,161	283	40	61	15.9
	1948	7,613	1,282,197	1,320,458	14,418	40,031	61.3	2,823,389	1,220,648	314	5	66	17.1
	Denver & R. G. Wn. 1949	2,413	333,377	361,527	40,709	12,245	74.4	814,694	399,653	127	47	31	15.1
	1948	2,443	353,018	395,318	50,115	12,696	74.9	850,043	431,571	139	45	36	16.4
	Southern Pacific 1949	8,089	2,193,940	2,396,983	382,016	90,587	61.3	6,280,368	2,316,956	817	13	134	13.9
	1948	8,095	2,241,903	2,508,016	443,259	92,352	63.6	6,407,980	2,516,451	750	5	167	18.1
	Union Pacific 1949	9,722	1,902,811	1,973,994	153,407	81,879	66.3	5,505,910	2,341,978	501	135	158	19.9
	1948	9,751	1,970,579	2,058,018	156,706	85,703	67.8	5,752,542	2,582,771	484	143	127	16.8
	Western Pacific 1949	1,192	208,555	230,084	23,071	9,003	76.5	571,282	270,857	62	36	21	17.6
	1948	1,192	222,612	244,979	26,465	9,829	79.6	594,440	283,653	69	40	16	12.8
Southwestern Region	International-Gt. Northern* 1949	1,110	191,875	192,444	591	5,649	63.3	414,837	181,102	56	4	13	17.8
	1948	1,110	227,608	228,490	1,021	6,410	67.3	450,626	209,403	66	2	10	12.8
	Kansas City Southern 1949	886	161,182	162,296	1,315	7,841	66.5	531,989	242,337	38	10	6	11.1
	1948	885	176,442	177,104	1,362	8,614	65.8	596,763	280,444	43	10	6	10.2
	Mo.-Kans.-Texas Lines 1949	3,241	458,840	464,370	6,809	14,058	62.0	996,358	464,345	107	4	35	24.0
	1948	3,241	561,346	582,258	8,321	16,982	61.4	1,180,858	522,058	124	2	30	19.2
	Missouri Pacific* 1949	6,987	1,222,655	1,248,693	24,255	41,627	63.7	2,818,228	1,200,451	376	18	72	15.5
	1948	6,986	1,401,824	1,444,177	32,786	47,480	64.9	3,268,031	1,466,394	427	..	64	13.0
	Texas & Pacific 1949	1,852	377,307	377,307	12,941	13,121	59.5	919,865	327,323	102	17	5	4.0
	1948	1,852	534,002	534,002	11,724	16,182	58.3	1,183,588	463,142	114	2	10	7.9
	St. Louis-San Francisco 1949	4,614	675,702	681,850	7,006	20,480	63.0	1,425,114	628,016	225	77	45	13.0
	1948	4,615	891,767	947,409	10,821	23,355	65.4	1,636,135	749,561	316	4	26	7.5
	St. Louis Southw. Lines 1949	1,562	346,321	348,174	4,728	13,251	70.1	813,810	363,784	81	21	12	10.5
	1948	1,568	383,568	385,863	5,183	14,940	71.8	909,899	406,738	84	9	13	12.3
	Texas & New Orleans 1949	4,314	752,987	752,987	10,983	22,747	62.6	1,578,400	652,669	206	9	42	16.3
	1948	4,314	899,313	901,641	20,808	24,344	66.9	1,664,029	736,331	216	..	35	13.9

Items for the Month of June 1949 Compared with June 1948

	Region, road and year		Freight cars on line: Home	Foreign	Total	Per Cent. B.O.	G.t.m.per train-hr. excl.locos. and tenders	G.t.m.per train-mi. excl.locos and tenders	Net ton-mi. per train-mile	Net ton-mi. per l'd. car-mile	Net ton-mi. per car-day	Car miles per car-day	Net ton-mi. per road-mi.	Train-miles per train-hour	Mi. per loco. per day
New Eng. Region	Boston & Maine	1949	3,233	7,515	10,748	3.1	34,851	2,248	928	25.7	733	42.2	4,555	15.5	80.7
		1948	1,850	9,635	11,485	2.6	34,693	2,259	996	27.7	847	43.7	5,642	15.4	99.8
	N. Y., N. H. & Htfd	1949	2,618	14,013	16,631	2.6	36,697	2,429	1,033	26.5	554	31.9	5,258	15.1	81.7
		1948	1,430	18,037	19,467	2.2	34,070	2,317	1,023	27.1	611	32.9	6,440	14.7	73.5
Great Lakes Region	Delaware & Hudson	1949	6,589	5,049	11,638	5.3	52,793	2,957	1,514	36.2	1,052	43.9	14,481	17.9	53.8
		1948	2,989	6,423	9,412	4.7	56,102	3,129	1,696	39.2	1,566	58.5	19,640	18.0	69.5
	Del., Lack. & Western	1949	8,124	8,650	16,774	7.1	42,927	2,993	1,310	29.4	669	34.7	11,726	14.6	88.2
		1948	5,365	11,273	16,638	5.7	42,750	2,941	1,388	31.5	832	37.9	14,378	14.8	96.4
	Erie	1949	13,868	15,784	29,652	8.7	55,401	3,377	1,353	25.7	896	53.0	11,964	16.5	82.6
		1948	6,531	25,530	32,061	3.8	55,807	3,555	1,533	29.0	1,021	53.9	14,862	15.8	75.8
	Grand Trunk Western	1949	5,491	7,045	12,536	11.7	46,375	2,284	935	27.7	575	33.3	7,716	20.4	142.3
		1948	5,641	9,080	14,721	6.4	44,345	2,171	990	30.5	664	32.7	9,903	20.6	134.4
	Lehigh Valley	1949	9,984	7,748	17,732	12.3	58,142	3,319	1,550	32.7	639	29.8	9,525	17.9	100.4
		1948	7,329	9,402	16,731	11.1	51,181	2,866	1,424	34.3	779	33.3	11,482	18.3	106.4
	New York Central	1949	77,684	76,070	153,754	7.9	42,042	2,494	1,096	30.5	662	35.8	9,547	17.1	81.3
		1948	53,650	102,077	155,727	4.0	39,702	2,534	1,198	33.5	837	39.6	12,337	15.9	95.5
	New York, Chic. & St. L.	1949	5,251	8,051	13,302	5.2	55,766	2,693	1,064	26.1	1,359	80.7	11,210	21.1	104.7
		1948	2,858	12,804	15,662	1.7	52,044	2,672	1,186	28.8	1,542	78.4	14,429	19.6	131.8
	Pitts. & Lake Erie	1949	5,855	8,559	14,414	13.0	55,678	3,684	2,280	54.2	396	10.7	27,277	15.2	57.3
		1948	3,515	11,204	14,719	8.0	57,636	3,968	2,443	51.5	508	14.0	33,554	14.6	69.8
	Wabash	1949	8,716	12,488	21,204	3.1	49,290	2,317	902	25.2	861	52.0	7,318	21.4	102.9
		1948	6,586	14,880	21,466	3.2	45,977	2,293	991	27.7	1,025	53.0	8,937	20.2	116.7
Central Eastern Region	Baltimore & Ohio	1949	62,089	35,416	97,505	10.4	37,206	2,814	1,370	36.8	760	33.6	12,419	13.5	73.2
		1948	44,278	46,021	90,299	7.1	33,721	2,725	1,375	38.5	960	39.9	14,501	12.6	82.4
	Central of New Jersey*	1949	1,242	8,846	10,088	7.3	41,225	2,907	1,481	38.1	313	12.9	7,762	14.7	93.3
		1948	804	9,501	10,305	5.1	40,274	3,037	1,552	38.2	388	15.3	9,509	13.8	74.6
	Central of Pennsylvania	1949	2,144	3,063	5,207	10.8	37,468	3,014	1,555	39.5	650	25.9	15,545	13.3	62.1
		1948	1,031	3,554	4,585	10.1	40,812	2,997	1,632	40.7	859	30.5	19,213	14.3	80.7
	Chicago & Eastern Ill	1949	3,204	3,329	6,533	10.4	39,258	2,278	1,049	29.7	653	32.3	4,542	17.3	72.9
		1948	1,984	4,147	6,131	6.2	37,740	2,211	1,092	34.4	1,022	44.5	6,744	17.4	89.4
	Elgin, Joliet & Eastern	1949	7,063	9,064	16,127	3.5	23,474	2,985	1,625	41.7	272	9.7	18,783	8.3	98.2
		1948	6,456	11,148	17,604	1.6	19,370	2,805	1,570	43.8	302	10.1	13,709	7.2	110.7
	Pennsylvania System	1949	146,835	84,194	231,029	11.9	44,803	3,114	1,465	34.7	597	28.0	13,733	14.8	69.1
		1948	113,942	122,557	236,499	9.2	39,785	3,009	1,495	36.2	766	33.0	18,184	13.7	83.1
	Reading	1949	15,211	14,165	29,376	7.3	37,325	2,822	1,482	41.6	593	23.3	13,444	13.2	63.3
		1948	9,747	19,911	29,658	6.4	36,096	2,873	1,589	42.8	803	28.7	17,591	12.6	77.0
	Western Maryland	1949	7,308	2,265	9,573	1.3	39,348	2,892	1,579	44.7	927	33.2	10,527	13.8	46.9
		1948	4,210	3,862	8,072	1.4	31,632	2,970	1,638	45.6	1,458	51.6	13,343	10.8	61.1
Pocahontas Region	Chesapeake & Ohio	1949	64,853	23,504	88,357	6.4	59,915	3,612	1,971	46.3	993	37.8	17,260	16.8	76.9
		1948	45,812	29,718	75,530	1.9	56,819	3,776	2,153	48.2	1,604	56.8	23,908	15.3	98.3
	Norfolk & Western	1949	40,811	5,519	46,330	3.4	64,510	3,909	2,078	46.0	971	37.0	21,044	16.7	81.9
		1948	28,080	7,268	35,348	3.5	65,857	4,160	2,316	49.9	2,011	69.4	31,783	16.2	113.2
Southern Region	Atlantic Coast Line	1949	13,573	10,737	24,310	5.1	29,100	1,740	739	29.1	763	43.2	3,554	16.8	67.2
		1948	8,986	17,206	26,192	5.0	27,809	1,735	789	30.5	924	46.6	4,656	16.1	83.5
	Central of Georgia	1949	3,589	4,392	7,981	7.6	29,392	1,653	764	29.6	775	37.3	3,441	17.9	76.5
		1948	2,389	6,881	9,270	4.1	30,349	1,658	792	31.4	856	38.7	4,453	18.3	99.4
	Gulf, Mobile & Ohio	1949	4,325	9,041	13,366	2.8	55,888	2,917	1,356	30.2	1,035	48.6	4,707	19.2	97.2
		1948	2,816	11,417	14,233	1.7	58,151	3,151	1,521	31.9	1,216	53.5	6,253	18.6	86.3
	Illinois Central	1949	24,911	23,690	48,601	1.8	45,412	2,481	1,124	31.9	1,022	52.5	7,553	18.5	74.3
		1948	17,192	31,926	49,118	1.9	45,052	2,569	1,220	33.7	1,158	54.3	8,936	17.7	80.8
	Louisville & Nashville	1949	41,949	11,141	53,090	4.1	32,364	1,969	969	36.6	720	32.5	7,780	16.5	93.1
		1948	29,595	15,802	45,397	4.1	29,463	1,929	994	38.6	1,144	48.2	10,718	15.3	123.8
	Nash., Chatt. & St. Louis	1949	3,642	3,464	7,106	9.3	34,137	1,701	786	28.1	784	39.2	5,115	20.1	101.9
		1948	1,051	4,738	5,789	6.5	29,928	1,527	745	30.7	1,113	48.1	6,147	19.8	103.5
	Seaboard Air Line	1949	10,944	9,951	20,895	3.1	36,620	2,064	885	29.3	925	50.6	4,755	18.2	84.5
		1948	6,758	15,143	21,901	1.5	35,127	2,053	938	30.8	1,040	51.2	5,733	17.6	90.3
	Southern	1949	18,227	24,942	43,169	5.3	34,169	1,983	842	27.5	699	39.3	4,812	17.3	59.7
		1948	13,159	31,558	44,717	3.6	29,913	1,746	797	29.6	925	45.5	6,491	17.3	86.5
Northwestern Region	Chicago & North Western	1949	22,726	26,811	49,537	3.1	36,688	2,443	1,061	30.5	600	30.3	3,628	15.8	72.7
		1948	19,481	33,320	52,801	3.2	34,959	2,415	1,077	31.0	636	30.6	4,201	15.2	81.8
	Chicago Great Western	1949	2,143	4,797	6,940	8.1	53,216	3,266	1,392	26.9	1,034	56.0	4,897	16.3	87.9
		1948	1,485	4,639	6,124	4.3	45,498	2,754	1,250	29.9	1,423	68.4	6,113	16.5	102.1
	Chic., Milw., St. P. & Pac.	1949	31,936	27,746	59,682	2.3	39,145	2,415	1,091	31.2	755	37.5	4,238	16.3	81.6
		1948	23,792	36,870	60,662	1.9	36,169	2,252	1,024	31.2	772	38.2	4,293	16.2	88.7
	Chic., St. P., Minn. & Omaha	1949	1,139	7,270	8,409	3.2	24,408	1,866	795	28.7	589	30.4	2,790	13.5	64.6
		1948	1,080	7,757	8,837	5.5	24,665	1,904	909	32.1	689	30.4	3,704	13.4	74.5
	Duluth, Missabe & Iron Range	1948	14,981	296	15,277	3.4	92,497	5,640	3,399	61.0	1,179	38.3	31,492	17.1	163.9
		1948	15,045	469	15,514	2.4	85,331	5,299	3,187	56.4	1,146	39.4	30,716	16.8	134.1
	Great Northern	1949	24,602	17,564	42,166	2.7	52,532	3,281	1,670	38.9	1,288	50.4	6,464	16.1	80.2
		1948	22,588	19,002	41,590	2.9	48,342	3,124	1,577	37.5	1,245	51.3	6,343	15.6	81.2
	Minneap., St.P. & S. Ste. M	1949	7,815	6,025	13,840	5.3	39,442	2,238	1,051	31.8	958	46.0	3,176	17.7	110.1
		1948	6,154	8,673	14,827	7.9	35,783	2,068	992	32.0	838	38.6	3,115	17.4	108.6
	Northern Pacific	1949	20,475	13,905	34,380	5.8	44,981	2,770	1,287	32.6	1,010	44.9	5,215	16.3	79.9
		1948	18,244	18,307	36,551	5.4	45,015	2,687	1,266	32.4	905	41.0	4,937	16.9	76.1
Central Western Region	Atch., Top. & S. Fe (incl. G. C. & S. F. and P. & S. F.)	1949	51,510	34,581	86,091	4.3	53,227	2,697	1,009	25.8	1,080	64.6	7,210	19.9	121.5
		1948	44,472	39,462	83,934	4.8	50,009	2,573	1,032	27.1	1,303	71.7	8,399	19.6	132.7
	Chic., Burl. & Quincy	1949	19,099	22,835	41,934	4.3	50,533	2,782	1,278	31.0	1,039	50.0	5,013	18.2	70.9
		1948	16,169	25,424	41,593	3.4	50,805	2,812	1,285	32.2	1,261	61.8	5,949	18.1	85.2
	Chic., Rock I. & Pac	1949	13,618	24,672	38,290	3.3	41,322	2,315	957	28.8	950	54.5	4,630	17.9	105.1
		1948	11,382	27,766	39,148	3.8	38,261	2,213	957	30.5	1,050	56.2	5,345	17.4	120.3
	Denver & R. G. Wn.	1949	9,082	4,754	13,836	4.4	43,342	2,455	1,204	32.6	990	40.7	5,521	17.7	68.7
		1948	7,380	6,233	13,613	4.0	40,666	2,427	1,232	34.0	1,053	41.3	5,889	16.9	70.2
	Southern Pacific	1949	28,632	42,063	70,695	4.6	46,328	2,889	1,066	25.6	1,108	70.7	9,548	16.2	104.9
		1948	26,756	45,346	72,132	3.5	45,506	2,888	1,134	27.2	1,167	67.4	10,362	15.9	113.0
	Union Pacific	1949	30,185	30,474	60,659	4.3	63,169	2,917	1,241	28.6	1,307	68.9	8,030	21.8	91.1
		1948	29,365	32,906	62,271	3.9	61,887	2,966	1,332	30.1	1,427	69.8	8,829	21.2	100.1
	Western Pacific	1949	2,405	2,384	4,789	11.9	56,168	2,753	1,305	30.1	1,966	65.4	7,574	20.5	71.3
		1948	1,997	3,275	5,272	8.0	53,742	2,679	1,278	28.9	1,753	76.3	7,932	20.1	73.3
Southwestern Region	International-Gt. Northern*	1949	774	6,563	7,337	1.3	40,135	2,182	953	32.1	858	42.3	5,439	18.6	91.5
		1948	423	6,842	7,265	1 5	36,338	2,005	932	32.7	999	45.5	6,288	18.4	105.0
	Kansas City Southern	1949	1,731	6,028	7,759	5.1	64,806	3,304	1,505	30.9	1,082	52.7	9,117	19.6	110.5
		1948	1,394	6,146	7,542	4.1	66,226	3,396	1,596	32.6	1,284	60.0	10,563	19.6	111.0
	Mo.-Kans.-Texas Lines	1949	4,922	9,040	13,962	2.9	37,499	2,184	1,018	33.0	1,144	55.9	4,776	17.3	107.9
		1948	3,352	10,390	13,742	1.1	37,279	2,132	942	30.7	1,355	71.7	5,369	17.7	134.2
	Missouri Pacific*	1949	21,184	19,073	40,257	1.8	45,239	2,317	987	28.8	1,026	55.9	5,727	19.6	97.7
		1948	18,204	23,774	41,978	2.1	43,809	2,345	1,052	30.9	1,180	58.8	6,997	18.8	107.5
	Texas & Pacific	1949	1,970	6,970	8,940	4.3	52,435	2,444	870	24.9	1,324	89.2	5,891	21.5	112.4
		1948	1,562	11,048	12,610	2.4	43,693	2,236	875	28.6	1,381	82.7	8,336	19.7	153.0
	St. Louis-San Francisco	1949	13,346	11,105	24,451	2.6	36,336	2,117	933	30.7	865	44.8	4,537	17.2	73.2
		1948	7,749	14,230	21,979	2.2	34,955	1,851	848	32.1	1,106	52.7	5,414	19.1	99.9
	St. Louis Southw. Lines	1949	2,004	4,961	6,965	2.2	45,177	2,359	1,054	27.5	1,774	92.2	7,763	19.2	111.9
		1948	1,649	5,822	7,471	2.0	45,461	2,373	1,061	27.2	1,806	92.5	8,647	19.2	131.2
	Texas & New Orleans	1949	4,769	17,487	22,256	3.0	40,017	2,114	874	28.7	986	54.9	5,043	19.1	107.2
		1948	3,761	16,520	22,281	2.8	36,084	1,669	827	30.2	1,138	56.2	5,689	19.5	130.3

*Report of trustee or trustees.
Compiled by the Bureau of Tra nsport Economics and Statistics, Interstate Commerce Commission. Subject to revision.

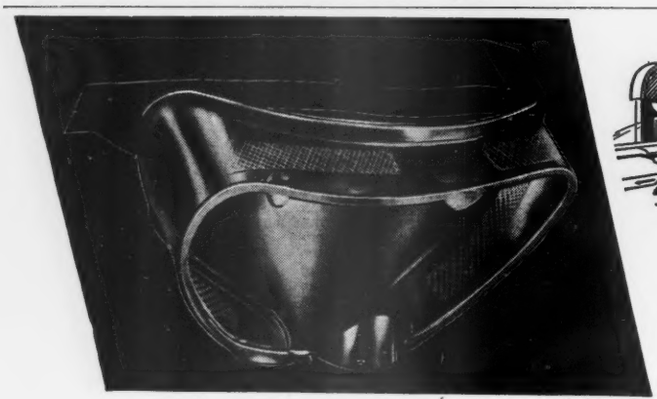
FOR DEPENDABLE, TROUBLE-FREE WINDSHIELD WIPER SERVICE . . . . Be Sure To

SPECIFY AIR-PUSH

More Power — for Bigger Windshields. Lower Maintenance Cost — because of Rugged Construction and Simple Design. Completely Replaceable Parts. . . . warranted for one year!

Sprague DEVICES, INC.

MICHIGAN CITY, INDIANA



Style No. 1

TWO NEW MONOGOGGLES for Show Window Vision

New, deeply cupped styles have ample room for wearing prescription glasses in comfort. The flat style provides added clearance for molded spectacle frames. Large, one-piece, plastic lens in new drop-eye shape provides wider vision. Frames are of clear acetate or flexible, mottled-brown polythene. Their lightweight and excellent impact resistance give workers all-day comfort and ample eye protection on a variety of hazardous operations.

Choice of Flat Lens or Curved Lens.

For complete information on these products and their application, as well as many more eye and respiratory protective devices, get in touch with your nearest WILLSON distributor or write us direct.

WILLSON

T.M.Reg.U.S.Pat.Off.

WILLSON PRODUCTS, INC., 241 WASHINGTON STREET, READING, PA.

GENERAL NEWS

Kettering Optimistic

(*Continued from page 63*)

isfactory operation is to be had. Cleanliness is a prime requisite to successful Diesel operation. A small accumulation of dirt in a critical location can be the cause of irregular functioning of a unit or may be the cause of an engine failure. We all know that defects are more easily seen and corrected in a well policed unit than in one covered with oil and dirt.

"In any mechanical device there are usually certain places which are potential sources of trouble and to which additional attention should be given. Such is the case with Diesel locomotives as well as steam locomotives. When these trouble spots are recognized through experience and indicated inspections and repairs are properly made, operating difficulties and accidents will be avoided.

"There are two types of accidents upon which I might comment. The first is crank-case explosions. Fundamentally these accidents are caused by an accumulation of fuel oil in the engine base which through agitation can cause formation of an explosive mixture of vapor in the base. If a localized hot spot develops because of lubrication difficulties or other cause a more or less severe explosion will occur. Proper inspection and maintenance, including careful periodic testing of samples of lubricating oil from engine bases, should avoid many accidents of this character.

"The second type of accident involves traction motors and their bearings. Three serious accidents from this source have occurred since January 1 of this year. In two instances failure of armature bearings resulted in locked pinions which caused the wheels to slide and ultimately resulted in derailments. In the third case the failure of a suspension bearing caused a broken axle and subsequent derailment. These traction-motor bearings are in relatively inaccessible locations on all units and for that reason should be examined carefully at each inspection by dependable men of adequate experience and training in order that every precaution may be taken to prevent failures and accidents on line of road.

"I presume that many of you have acquired considerable experience with Diesel operating characteristics and following the custom of railroad men will share this knowledge with newcomers in the field. Much good can come from meetings of this kind and we usually return with an increased store of information and the realization that the other fellow has his troubles also."

Postpones Date of Order On Forwarder-Trucker Pacts

Responding to a request from the Senate committee on interstate and foreign commerce, the Interstate Commerce Commission has further postponed, from October 1 until March 1, 1950, the effective date of the order in the case

"A Perfect Team"

for the manufacture and sale of

soldering products

The recent integration of the P. Wall Manufacturing Company and the Harmic Manufacturing Company has made available a complete line of soldering products from the P. Wall plant in Grove City, Pa. P. Wall is the oldest manufacturer of blow torches and firepots in the United States and has enjoyed an enviable reputation for quality products since 1864. Combined with this fine old name is new vigor in manufacturing and merchandising techniques supplied by the principals of the more youthful Harmic Manufacturing Company.

Typical of P. Wall's complete line are the following products.

"DREADNAUGHT"
Torch No. 41

This gasoline blow torch features a drawn steel tank with all inlets brazed and bottom electrically seam welded to tank shell. Blow-proof pump, durable double coat brass gloss finish. Highly polished brass tank available. Attractively priced.

The "BIG BRUTE" splicer's furnace

Wide base and low center of gravity for absolute stability. Pump has blow-proof construction and positive check valve. Flue is equipped with doors or may be tilted out of way. Wall "Superior" Safety Shield protects furnace from wind and prevents accidents.

Send for NEW Catalog

Our new catalog, printed in August, describes our complete line—including the Harmic Division products. Write for free copy—no obligation.

Since WALL 1864
SUPERIOR PRODUCTS
SINCE 1864

P. Wall Mfg. Co.

214 ERIE STREET, GROVE CITY, PA.
YOUR MOST COMPLETE LINE OF SOLDERING PRODUCTS

wherein it fixed terms and conditions under which freight forwarders may utilize the services and instrumentalities of motor carriers. The order accompanied the commission's report in the No. 29493 proceeding (see *Railway Age* of October 9, 1948, page 74), which determined that motor carriers might charge less than their published tariff rates for performing so-called assembly and distribution services for forwarders, but that agreements covering terminal-to-terminal trucking would have to provide for forwarder payments no lower than the truckers would receive under their tariffs.

Forwarders objected to this latter requirement and filed an appeal, which is still pending, in the United States District Court for the District of Delaware. At the request of this court, the commission previously postponed the effective date of its order to October 1. The Senate committee's request for the further delay now granted came out of a recent executive session wherein the committee decided to defer until January 1, 1950, any action on S.2113, a pending bill "to clarify the status of freight forwarders and their relationship with motor common carriers."

The bill, which the committee's chairman, Senator Johnson, Democrat of Colorado, introduced "by request," would amend the Interstate Commerce Act's part IV to confer upon forwarders the status of "common carriers." Also, it would provide that nothing in the act should be construed to prevent forwarders from "entering into or operating under contracts" with common-carrier truckers. Such contracts would have to be filed with the commission, which would have authority to require their modification in order to make the terms "just, reasonable, and equitable."

Strike Threatens Burlington

The four operating unions which are conducting a paralyzing strike against the Missouri Pacific—the Brotherhood of Locomotive Engineers, the Brotherhood of Locomotive Firemen & Enginemen, the Order of Railway Conductors and the Brotherhood of Railroad Trainmen, as noted elsewhere in these pages—have authorized a strike against the Chicago, Burlington & Quincy as a result of back pay claims and grievances. No strike date has been set, and a federal mediator is attempting to avert the walkout. The dispute involves 360 cases remaining from an original 1,040 cases, a total of 680 having been settled.

In connection with the strike threat on the Burlington, Harry C. Murphy, president, issued the following statement: "The Federal Railway Labor Act, enacted by Congress at the request of the labor organizations, provides the method for disposing of all of these disputes. If the law is complied with there will be no strike. The Burlington will comply with the law. The public has the right to expect that labor leaders will do likewise."

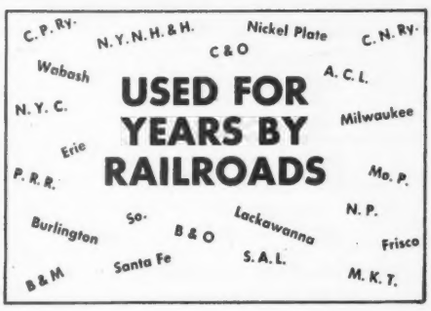
Railway INSULMAT

The remarkably effective 3-PURPOSE COATING that Saves Railroads Thousands of Dollars every Year

- Deadens Sound
- Kills Vibration Noises
- Protects Metal against Rust and Corrosion
- Prevents Condensation Drip and Resulting Damage to Freight
- Prevents Saturation of all types of Insulation Products
- Used as a Ceiling Finish instead of Plywood—it costs less and is better

Applied with spray gun to ceilings and side walls of freight, passenger and refrigerator cars and cabooses.

Railway Insulmat being applied to the inverted ceiling of a California Zephyr car.



It will pay you to investigate this tried and true product — RAILWAY INSULMAT. Send for circular today.

J. W. MORTELL CO.
Technical Coatings since 1895
563 Burch St., Kankakee, Ill.

Get Together DEPARTMENT

CLASSIFIED ADVERTISEMENTS: $5.00 AN INCH (1" X 1⅜") PER INSERTION
EMPLOYMENT ADVERTISEMENTS: TEN CENTS A WORD: MINIMUM $2.00

RAILROAD EQUIPMENT—FOR SALE

STANDARD GAUGE LOCOMOTIVES

1—44-Ton, 0-4-4-0, Diesel-Electric, General Electric, 380 HP, ICC Condition, 4 Traction Motors, Dual Controls
1—10-Ton, 0-4-0, Gasoline, Whitcomb
1—83-Ton, 2-6-2 Steam, Oil-Fired, Saddle Tank
1—45-Ton, 0-4-4-0, Diesel Electric, General Electric, 300 H.P., I.C.C. Condition

ALSO
4—100-Ton, 0-4-4-0, 600 HP, Diesel-Electric, ICC Condition, 4 Traction Motors

STANDARD GAUGE CARS

5—Gondola, 50-Ton, All-Steel, 40'6", 4'7" Sides
6—Gondola. All Steel, 50-Ton, 40'3", 2'11" Sides
5—Flat, 40-Ton, 60-Ft. S/U
1—Flat 50-Ton, 41'6"
1—Flat, 50-Ton, 43-Ft., S/U
1—Flat, 70-Ton, 36'6", DEPRESSED CENTER (Well Type)
11—Side Dump, 20 Yd. Automatic Air, Lift Door
1—End Dump, 10-Yd., All-Steel, Lift Door
14—Passenger, 64'6", All-Steel
40—Hopper, Twin, All-Steel, 50-Ton
14—Ore Hopper, All-Steel, 50-Ton
1—40-Ton, All Steel Covered Hopper, Discharging Thru 4 Openings on One Side Only, FOR HAULING SODA ASH.
1—Box, 40-Ton, 40' Single Sheathed
5—Box, 50-Ton, 50', All-Steel
3—Tank, 10,000-Gallon, Class III
3—Tank, 8000-Gallon, Class II & III
1—Mail, All-Steel, 60'9"
20—Hopper, LIKE NEW, Twin, All-Steel, 50-Ton, Built 1937, Cubic Capacity 2145 Cu. Ft.

SEND US YOUR INQUIRIES

Repair Parts For All Types of Freight Cars

IRON & STEEL PRODUCTS, INC.
GENERAL OFFICE
13486 S. Brainard Ave., Chicago 33, Illinois
Phone: BAyport 1-3456
NEW YORK OFFICE
50-c Church St.. New York 7, New York
Phone: BEekman 3-8230
"ANYTHING containing IRON or STEEL"

6,000 Gallon
8,000 Gallon
10,000 Gallon
STORAGE TANKS

NEW AND USED EQUIPMENT

2—100 ton Baldwin and Alco 660 HP diesel elec. locomotives. Built 1942, condition like new.

2—35 ton Ohio locomotive cranes. Built 1943. Gasoline powered, in new condition.

MISSISSIPPI VALLEY EQUIPMENT CO.
509 Locust St.
St. Louis 1, Mo.

INSPECTION SERVICE
Cross Ties, Lumber, Poles, Piles and Preservative Treatments. Analysis of Wood Preservatives. Inspectors Stationed Throughout U. S. A.
A. W. Williams Inspection Co.
Mobile, Alabama

Robert W. Hunt Company
ENGINEERS
Inspection—Tests—Consultation
All Railway Equipment
Structures and Materials
General Office:
175 W. Jackson Boulevard
CHICAGO
New York-Pittsburgh-St. Louis

Educational Services for RAILROAD MEN
Our New Service on Diesel Locomotive Operation is highly recommended for Engineers and Firemen
The Railway Educational Bureau
Omaha 2, Nebraska

POSITION WANTED

A superintendent of motive power with successful experience during seven year period of conversion of small Class I Railroad from all steam to all Diesel motive power, desires connection with small Railroad which is about to plan or has already started to completely Dieselize. Age 51. B.S. in Mechanical Engineering. Member of A.S.M.E. Address Box 513, RAILWAY AGE, 30 Church St., New York 7, N. Y.

USE SPACE HERE

GOLD
CAR HEATING SPECIALTIES OF QUALITY
★ STEAM
★ VAPOR
★ ELECTRIC
GOLD CAR HEATING & LIGHTING CO.
33-35TH STREET, BROOKLYN 32, N.Y.

OHIO LOCOMOTIVE CRANES
GASOLINE • DIESEL
ELECTRIC • STEAM
25 TO 40 TON CAPACITY

THE OHIO LOCOMOTIVE CRANE CO.
BUCYRUS, OHIO

Why we quit making rubber-covered cannon balls

We have made—and quit making—a lot of things during our nearly 100 years in business. Because of our "know-how" in making insulation of unusual durability, we were asked to develop rubber-covered cannon balls to reduce wear-and-tear on cannon, during the war between the states.

It was an interesting job—but the solution to cannon wear was tougher cannon rather than softer cannon balls.

We have retained our "know-how" in making insulation, however—and since those early days, we have made a lot of new developments. We developed the first insulated wire for Samuel Morse's telegraph. We pioneered in submarine cable well before the turn of the century. We even had to develop extruding machinery to apply insulation to wire and cable.

In recent years, Kerite has led in the development of self-supporting aerial cable, high-voltage x-ray cable which no one else could build satisfactorily, and in many other fields.

Kerite insulation—made only by Kerite—provides unusually long life and low cost per year. Why not ask a Kerite engineer to help put it to work for you? *The Kerite Company, 30 Church Street, New York 7, N. Y.*

Offices also at: 122 So. Michigan Avenue, Chicago; 582 Market Street, San Francisco; 714 W. Olympic Blvd., Los Angeles.

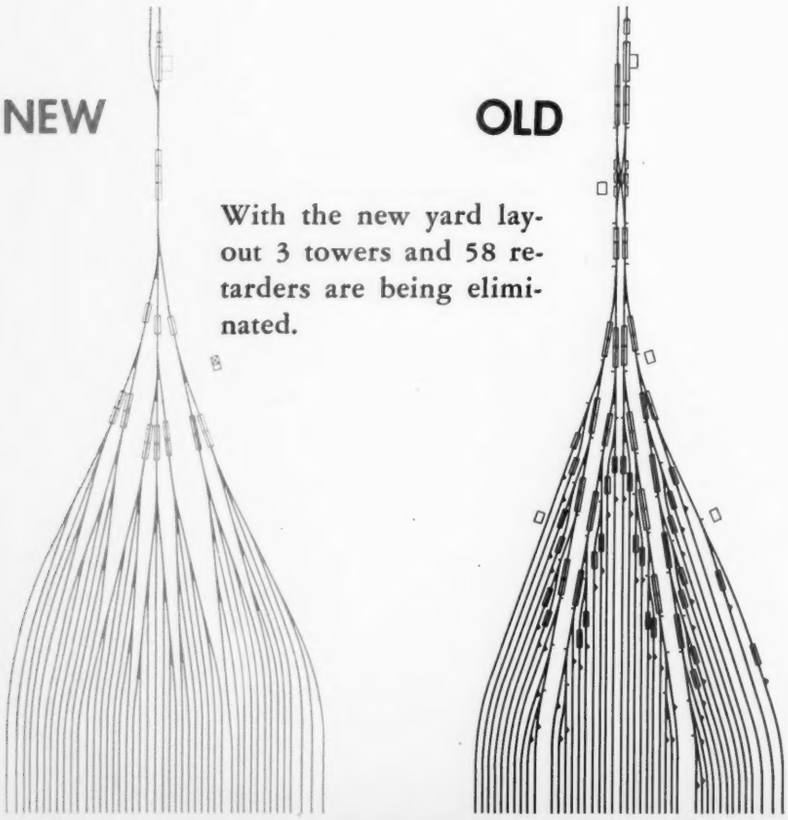
Kerite Insulation—Your Cable's Best Life Insurance

DAYS KERITE

KERITE CABLE

Have you heard of this G-R-S development?

At the hump, there's a pushbutton for each track . . . you merely push the button for the track you want and the car is switched there—automatically.



With the new yard layout 3 towers and 58 retarders are being eliminated.

Railroads

IC Tells Plan For Automatic Switching

A $3,000,000 improvement program to increase the efficiency of its large Markham Yard near Chicago has just been announced by Illinois Central Railroad.

Of prime importance in this rebuilding program is the plan to install push-button switch controls for classifying freight cars in two yards in Markham. According to the road, this will be the first installation of its kind in the Western Hemisphere.

Just Push a Button

It will enable an operator automatically to set all switches from the top of the "hump" to the classification tracks below by pushing a button corresponding to the track number to which the car is destined.

In addition, other improvements will include changes in gradients, regrouping of switches to reduce the number of retarders, reduction of curvatures and the installation of more powerful retarders of the latest design.

5 Years to Completion

This work will require five years for completion, it was said.

Markham Yard, one of the largest of its type, classifies almost all of the road's 35,000 to 40,000 cars arriving at and departing from Chicago each week. It is three and one-half miles long, contains 114 miles of track and has a capacity of nearly 9,000 cars.

From the Chicago Journal of Commerce

Write your G-R-S district office for more information on G-R-S Automatic Switching.

GENERAL RAILWAY SIGNAL COMPANY

New York 17 Chicago 3 ROCHESTER 2, N.Y. St. Louis 1 A-2379